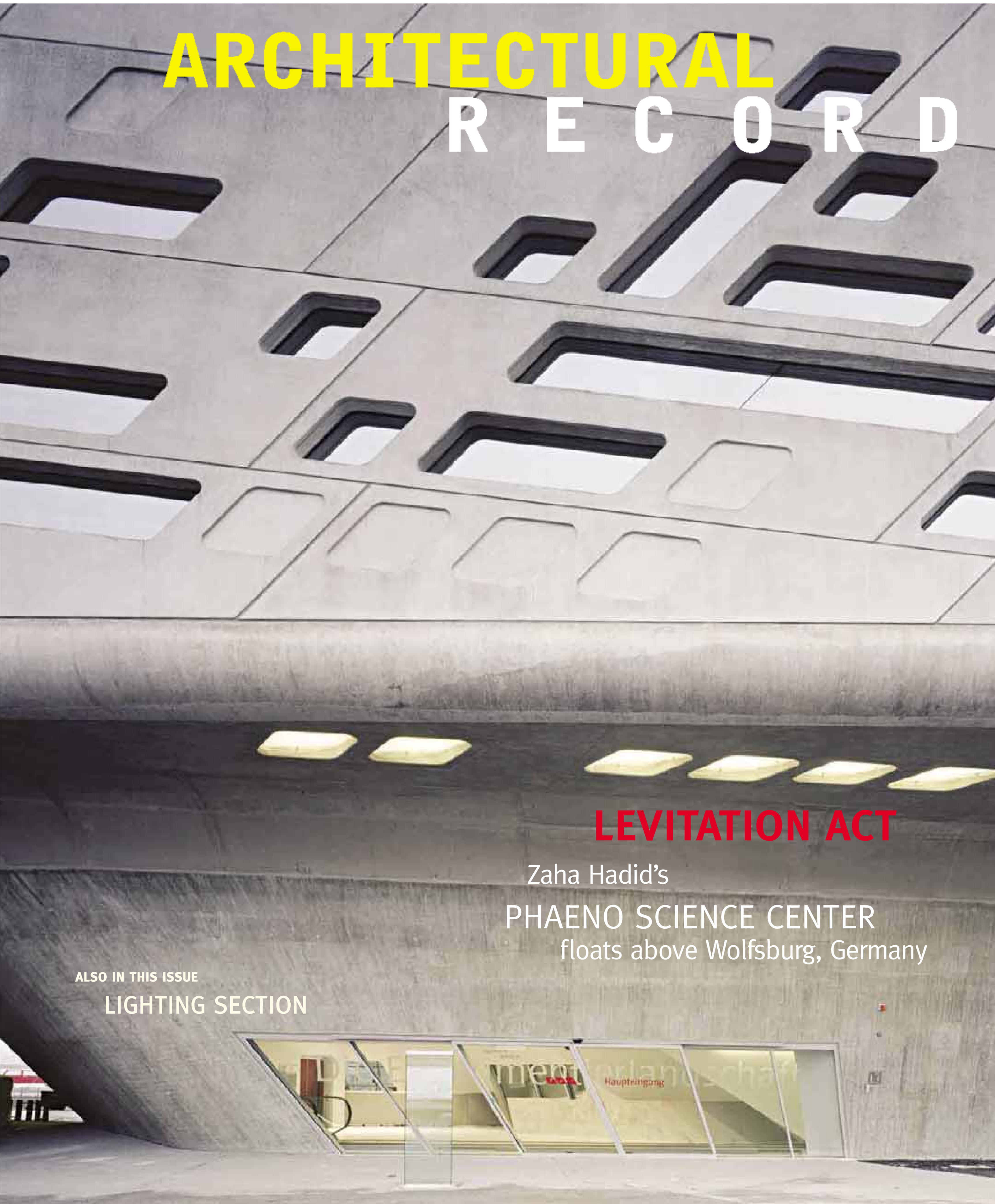

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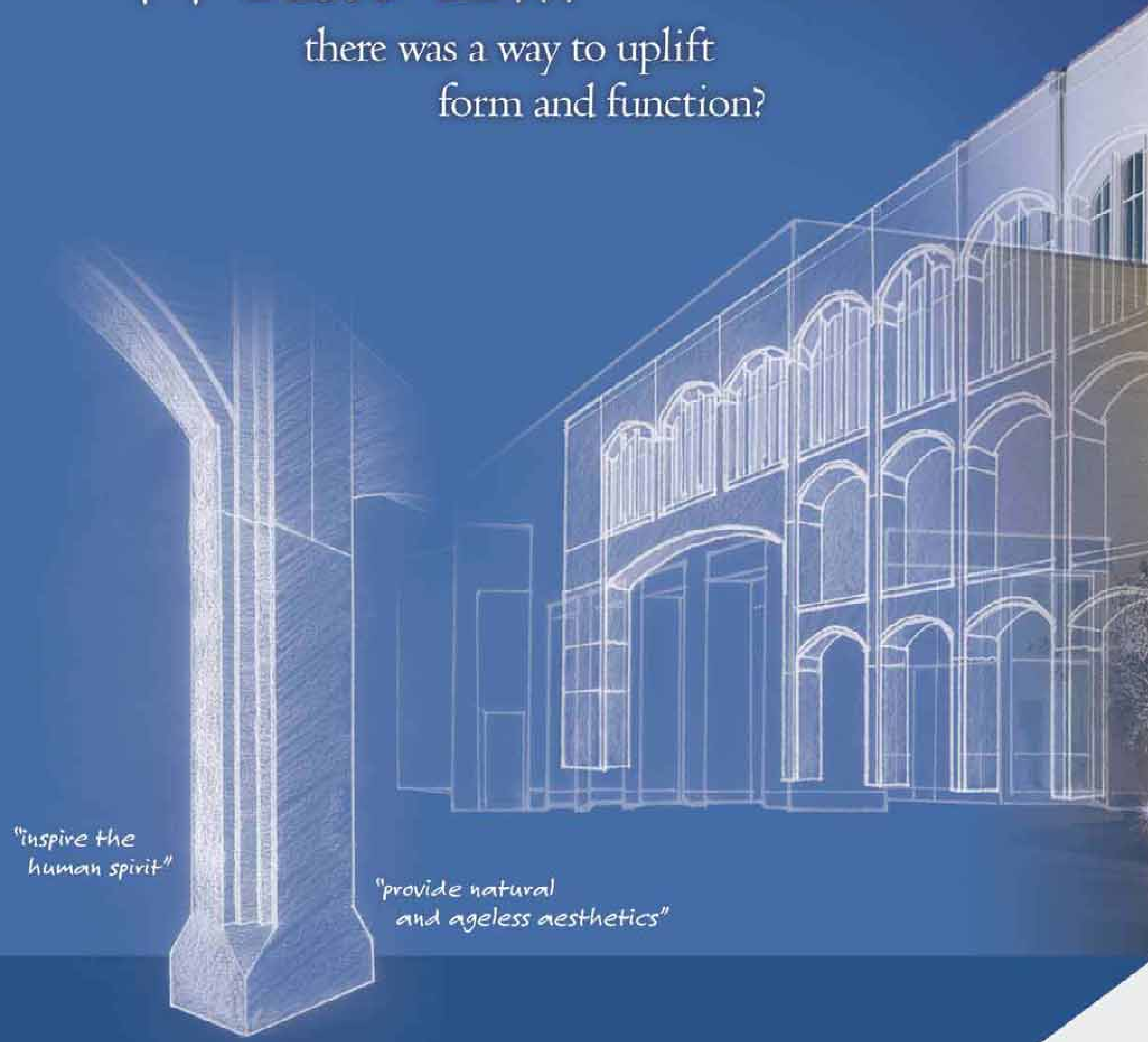
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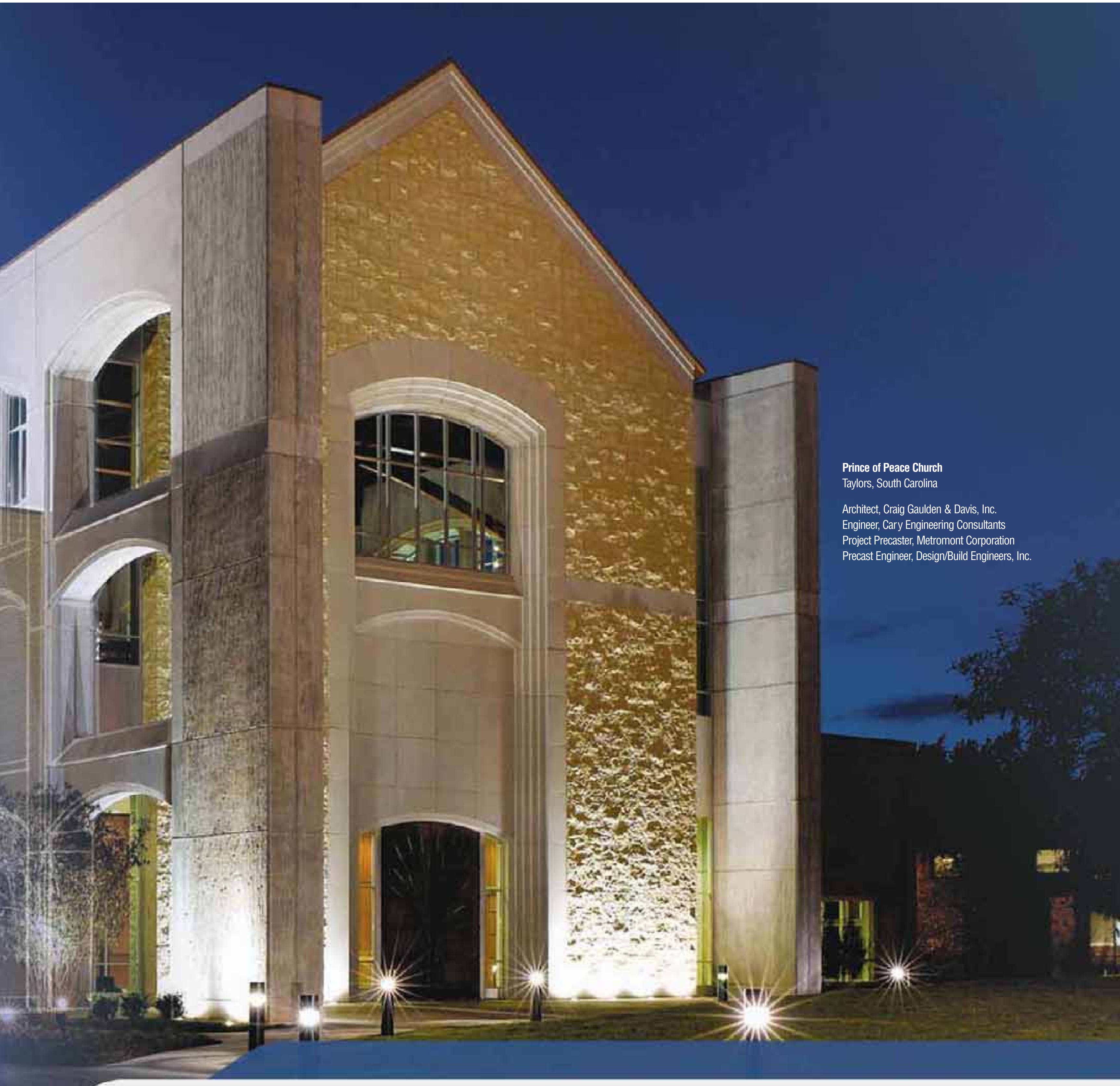

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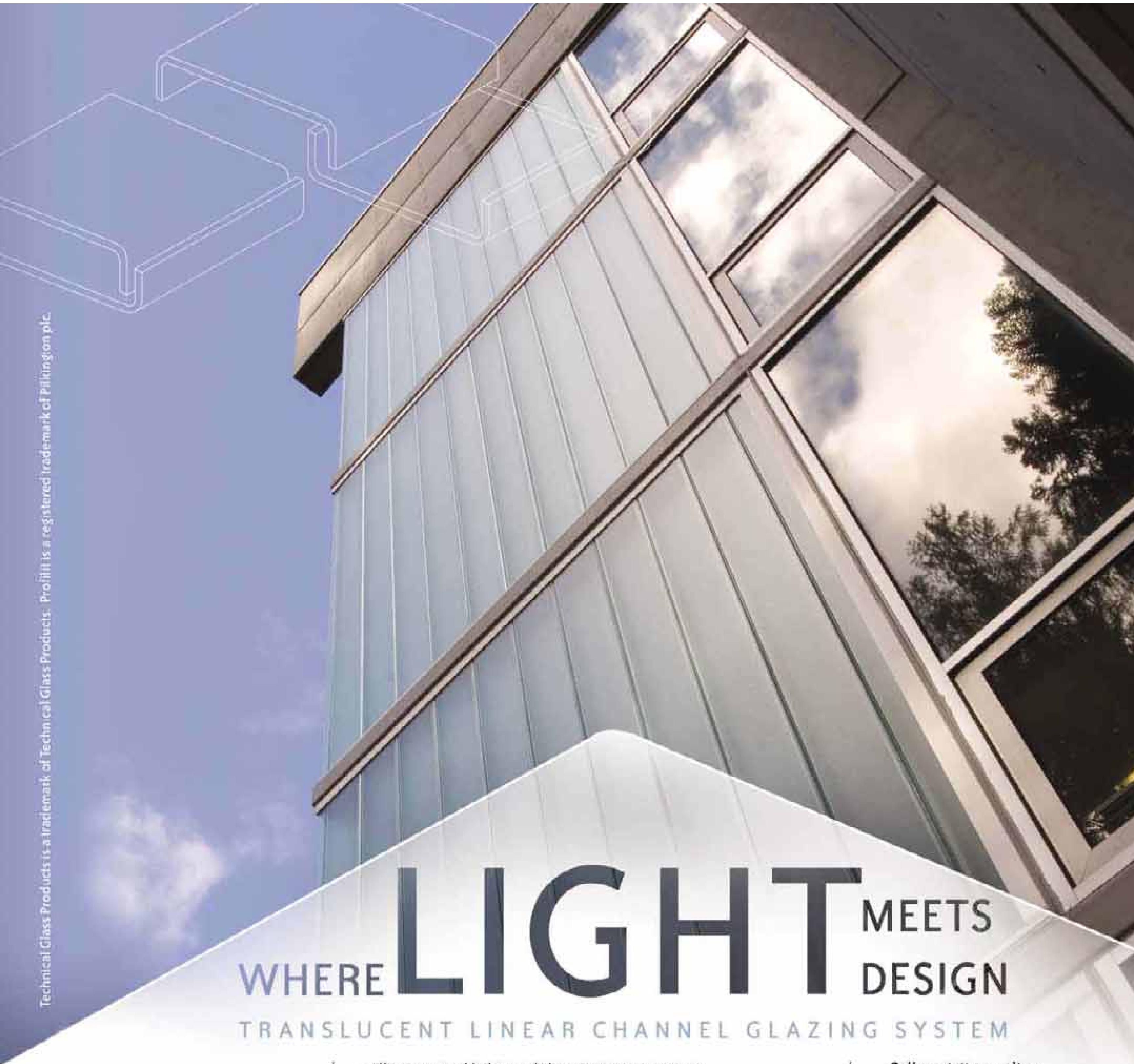
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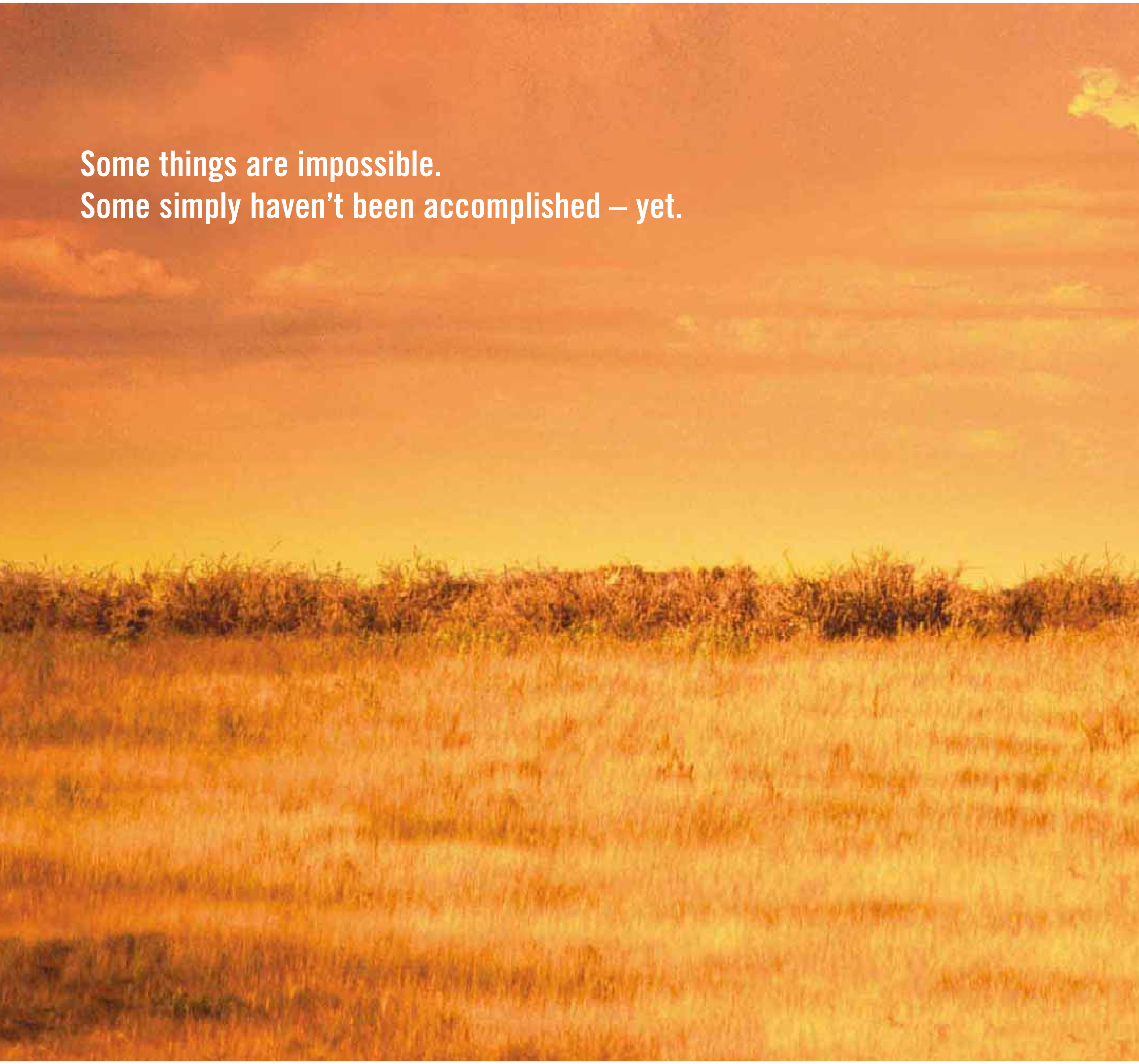
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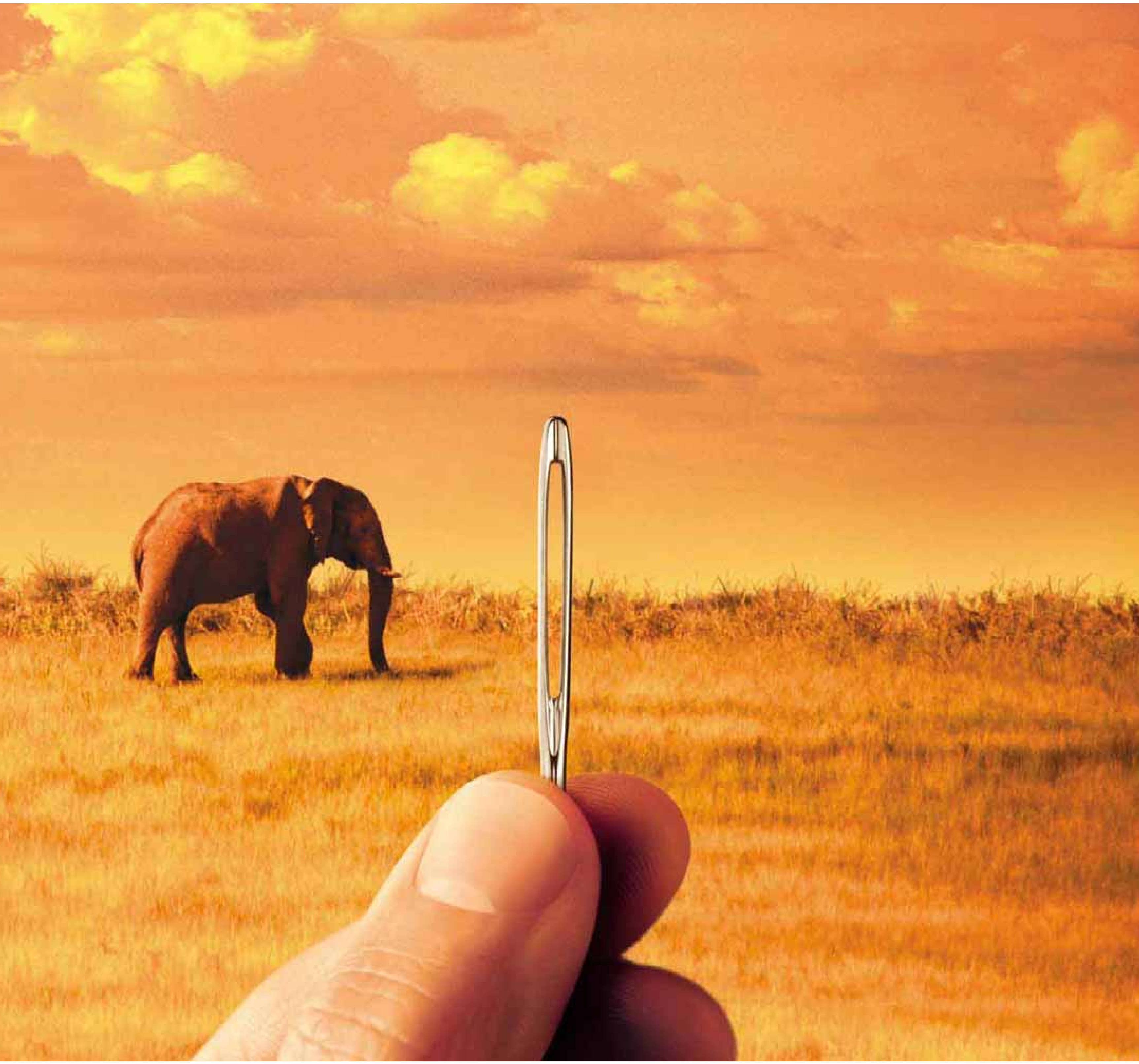

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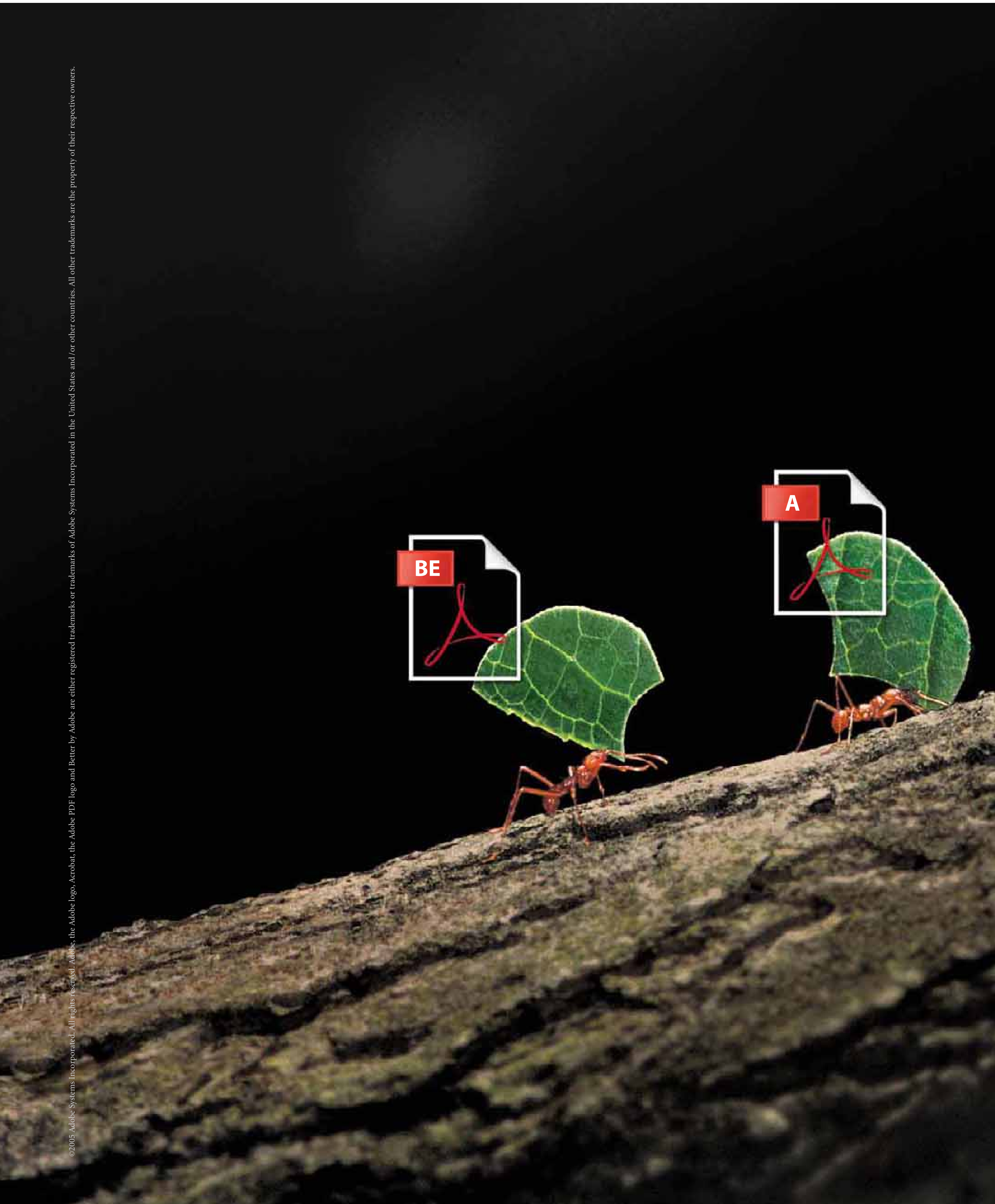

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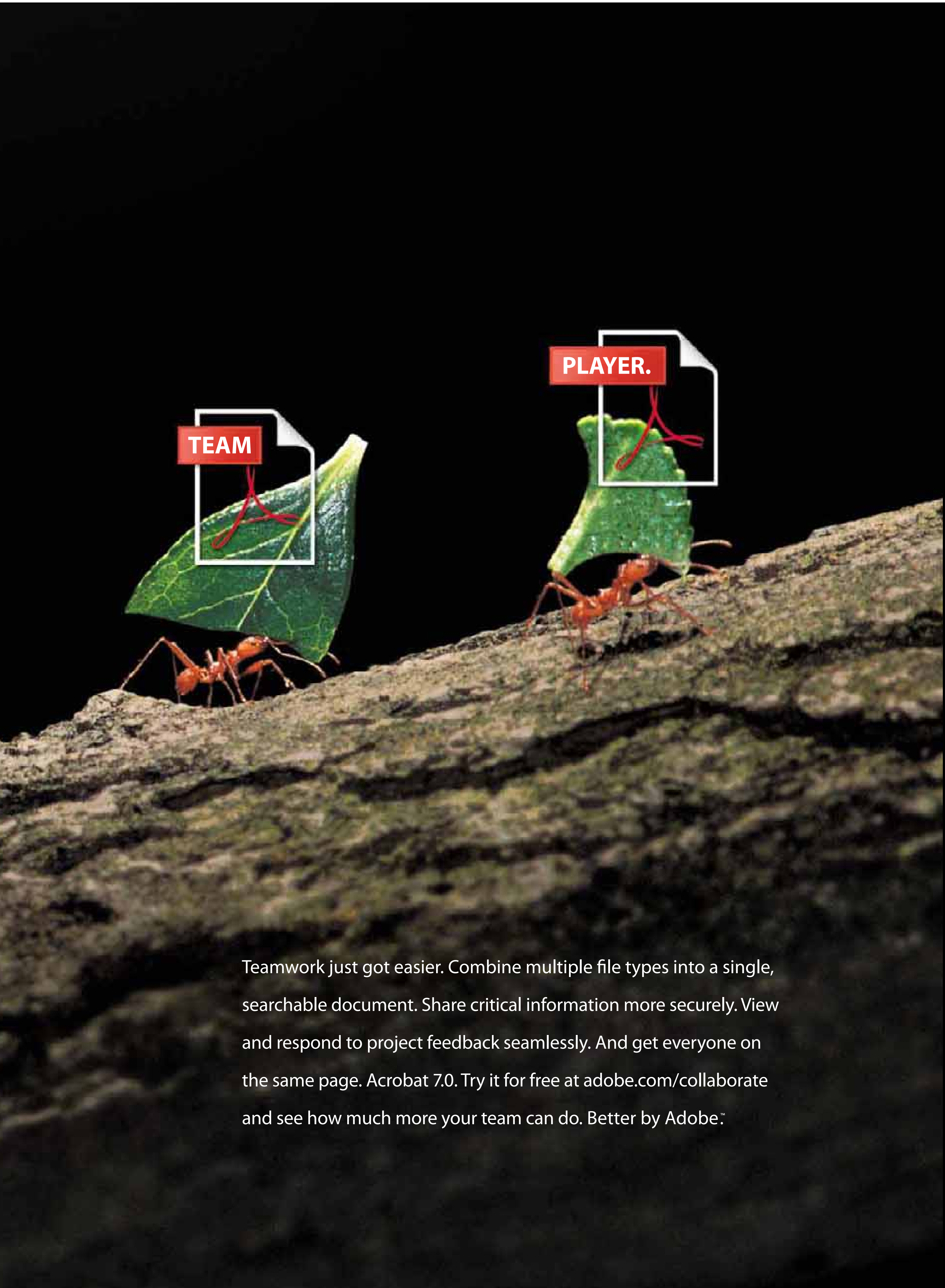

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On the Cover: *phaeno Science Center, by Zaha Hadid Architects.*
Photograph by Klemens Ortmeyer
Right: *Rendering of DOSarchitects' forthcoming Infiniti Tower in Dubai.*

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Phaeno Science Center by Zaha Hadid
Photo© Klemens Ortmeyer

Project Portfolio

Zaha Hadid creates fluid architecture for the Phaeno Science Center in Wolfsburg, Germany; EMBT does more than transform a dour Neoclassical fresh-food market into a flying carpet of brilliant colors and agitated forms in Barcelona; SOM gives an iconic Detroit office, hotel, and retail center a radical renovation; and buildingstudio designs a modern community space, Bridges Center, that helps mend social divides in Memphis.

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Building Types Study

Instead of perpetuating sprawl, these 10 mid-rise, multifamily housing projects offer attractive alternatives to the unchecked development of single-family communities. All of these projects embody a socially responsible approach to design, and a modern sensibility, often working within a modest budget.

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From the Field: Editor's Journal

To the Gulf, Parts I, II, and III, now updated with images. Robert Ivy's first-person report on his journey to the Persian Gulf for a gathering of architecture critics sponsored by the Aga Khan Award for Architecture finds him involved in discussions with Middle-Eastern architects and engineers as well as architecture critics from all over the globe.

Courtesy Thom Faulders

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Bay Area architect Thom Faulders is energized by contrasts and surfaces, while the U.S. Department of Energy's Solar Decathlon winners look to the sun for power and inspiration.

Lighting Special Section

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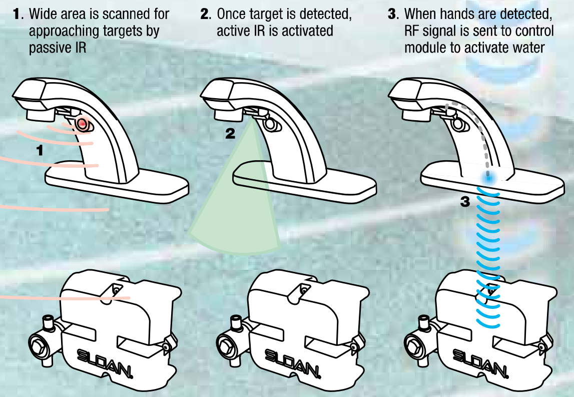

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A League of Our Own

Editorial

By Robert Ivy, FAIA

No branch of art covers a wider field than architecture; no branch ministers more to the comfort, luxury, and convenience of the people; yet none receives less attention and encouragement from public sources in America." While those salient points might have been written yesterday, they were penned by a group of young architects on January 18, 1881, who set out to redress a list of grievances. The group, which included Cass Gilbert, was called the Architectural League. Initially rooted in New York City, it has grown and prospered, sharing the story about architecture with the larger culture. We celebrate its 125th anniversary this year.

While associations such as the AIA primarily and justly concern themselves with professional matters, the league has always held the art of architecture at its core: Earliest meetings consisted of sketching sessions that would ultimately result in exhibitions of members' work. Along the way, the organization expanded its brief to include lectures, symposia, competitions, and social events, never abandoning the understanding of its central mission. Hugh Ferriss, architect and delineator extraordinaire, captured an essential organizational goal in 1944: "I should think this League would be proud to assist in the reintegration of two of Man's greatest impulses: the impulse to make things work and the impulse to make them beautiful."

Rosalie Genevro, the organization's executive director, echoes Ferriss's statement when she explains that the league "talks about New York, not as an advocacy group, but in thinking about how to make New York more beautiful." Along the way, the league has examined new forms of housing, discussed the role of skyscrapers, considered what makes a productive park project—all of which "resonate with the early years," she says. The discussions often prove as crucial as the work, leavening all our thinking for subsequent projects.

Furthermore, the league has always served as a meeting ground for people outside the formal discipline of architecture, including planners, graphic artists, writers, and patrons of the arts. Here has been a place where the educated public could encounter this seemingly esoteric subject; where it could be demystified for them in the process; and where they could be introduced to real architects in high-minded symposia or rambunctious gatherings, such as the league's fabled Beaux-Arts Ball.

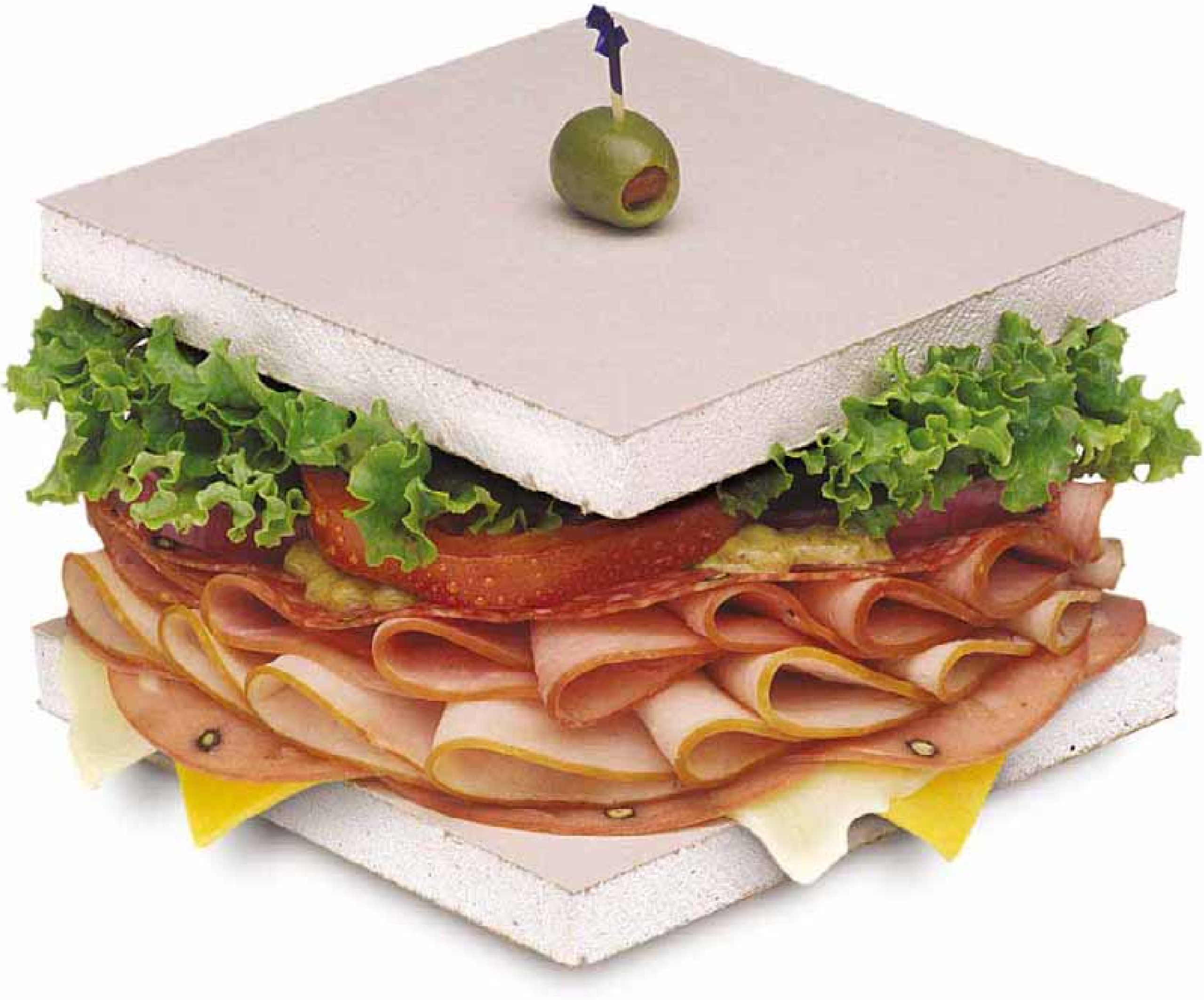
ARCHITECTURAL RECORD, among other organizations, has maintained a strong relationship with the league, providing members and leaders of the it, from the early days of two-term president Russell Sturgis (RECORD's esteemed 19th-century critic) until today. Current deputy editor Suzanne Stephens and contributing editor Michael Sorkin continue the tradition, serving as longtime board members.

It might be tempting for readers outside of Gotham to wave off the league as parochial (New Yorkers do tend to talk to each other), if its activities and programs didn't reach beyond the five boroughs. On the contrary, architects in San Francisco often know just whom the league has chosen for its current season of "Emerging Voices," a vital system of recognizing significant new talent in North America, or its Young Architect program, for example, which highlights the work of architects who have finished school within the past 10 years.

Current president Wendy Evans Joseph notes the league's commitment to "the larger community," which has attracted international interest, as well as the fact that the league is "opening itself to the globalization of architecture." Though she credits the league for helping to heighten public awareness, "that doesn't necessarily translate into public funding." There is homework left to be done.

We recognize the work of organizations that are educating and involving the public in architecture, such as the National Building Museum, the American Architectural Foundation, and the Chicago Architectural Foundation. January 18, however, signals a unique moment, when 125 years ago the art of architecture took a bold step forward. So to the young architects who kicked it off then, to their progeny who continue the tradition, and to all who love architecture, we salute the Architectural League.

Robert Ivy



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Letters

Towering out of context

I was struck by the very nature of the Agbar Tower, featured in your January issue [page 88], and couldn't agree more with the assessment that the "inky surface appears to ripple under a liquid film, sparkling through a jigsaw-puzzle of color." I am also intrigued by the concrete-bearing-wall technology, a wonderful approach with an old-school solution to modern materials and forms.

I do, however, take exception to the treatment of the city that is home to this "tower." The article was desperately lacking in taking the architect, the planners, and the developer to task for allowing and, in fact, encouraging this apparent slap in the face to the people of the city. To state that "Barcelona planners hope to spur growth without sacrificing the historic core" is to imply that the historic core is simply a "place," and that once outside of that core, one should not be restricted to appropriate development, but rather should flaunt one's separation.

ARCHITECTURAL RECORD needs to look beyond the pretty pictures and the glistening jewels and the "starchitects" to the more challenging question: Was it the right building to put here? Do not stop showing the very best, the most interesting, the most creative projects out there—we both want and need to see them. But we also need to have more critical assessments of the buildings so that we can see both the wonder and the things that do *not* work so well.

David C. Anderson, AIA
Golden, Colo.

Museum musings

Thank you for James Russell's November feature, "Architectural Culture Versus Museum Culture" [page 82], and thank you for including the images of the Akron Museum of Art's project. I was delighted to see the two-page headline that encapsulated why museum design is now so important—because it is one of architecture's only venues for artistic growth. I could not agree more (at least for us in the U.S.). I am glad Russell takes the museum field to task for being too safe. Though one admires Renzo Piano's sensitive galleries and excellent grasp of the budgetary, security, and climate control issues for museums, the buildings are simply uninspiring. If a museum is merely an articulated warehouse, what does that say about how we regard art?

When the Art Gallery of Ontario spoke with artists in the community, it turned out they wanted wood floors in Frank Gehry's new contemporary art galleries. He, of course, wanted concrete. As nice as concrete can be, I think the artists wanted their work to be shown in a space that was more special than a SAM's Club warehouse.

I hope our new building will hit both goals: exciting symbolic forms and also functional spaces and galleries. You and others will be the judge.

Mitchell Kahan
Director
Akron Art Museum
Akron, Ohio

It's not easy being green

I read your December editorial ["Green and Proud of It," page 19] with great interest. As you so eloquently mentioned, practices like Foster and Partners have been designing "green" for a few decades, creating buildings from a wide variety of materials and subassemblies that would not be regarded by most in the U.S. as "building materials." Having been educated as an architect in the U.K., I remain speechless about the lack of innovation in building technology and building design in the U.S. Perhaps it's because such a small fraction of our built environment has seen the hand of an architect; perhaps it's because most builders think "stick framing" when it comes to small-scale and domestic buildings; maybe it's because we suffer from a "not invented here" approach to new products from around the world.

Ever so slowly we are seeing the emergence of products that for many years have been available overseas. While I'm not privy to the strategy for your new green magazine you mentioned, I hope it shows architects and builders how technologies from abroad can transform the costs and the sustainability of so many buildings in this country. Getting those products into the U.S. is never easy, but perhaps your magazine could prompt some enterprising organizations to begin thinking outside of their construction technology boxes. With the right backing and international partnerships, perhaps we could all benefit from a new wave of effective, highly sustainable and proven products and assemblies for the U.S. market.

Phil Allsopp
Huntington Woods, Mich.

Seen, not heard

Reading most articles on urban sprawl [Residential section, October 2005, page 209], it is not hard to imagine the writers being single, or married with no children, and no plans for them, either. Most proponents of the "vertical not horizontal" growth do not seem to have a grasp on the reality of families in the traditional sense. I have never seen a profession that is so antichildren or ignores the real needs of a family as the architectural profession does. We are called on to design schools, playgrounds, and other child-intensive environments. However, when it comes to housing, children and traditional family life are better not seen or heard or dealt with.

Pedro Diez
Miami

CORRECTIONS

A photograph of Luce et Studio Architects' Nissan Design America in the December Vanguard issue [page 80] was miscredited. The photographer was Peter Bernheim. In the same issue [page 96], it was stated that Evan Douglis has been the undergraduate chair of Pratt Institute's School of Architecture since 1993. In fact, he has held this position since 2003. The November issue's Product Resource section included an incorrect e-mail address for Dunn-Edwards. The correct address is www.dunnedwards.com. A caption in the December feature "Young Turks in Big Tents" [page 70] incorrectly referred to the Persian Gulf as the Arabian Gulf. A January news item [page 36] stated that the new Getty Villa in Los Angeles would be an educational center dedicated to the study of the arts and cultures of ancient Rome, Greece, and "Eritrea." The latter should have read Etruria. Robert Campbell's January Critique [page 57] stated that the position of president of the RIBA is held by George Ferguson. The current president of the RIBA is Jack Pringle.

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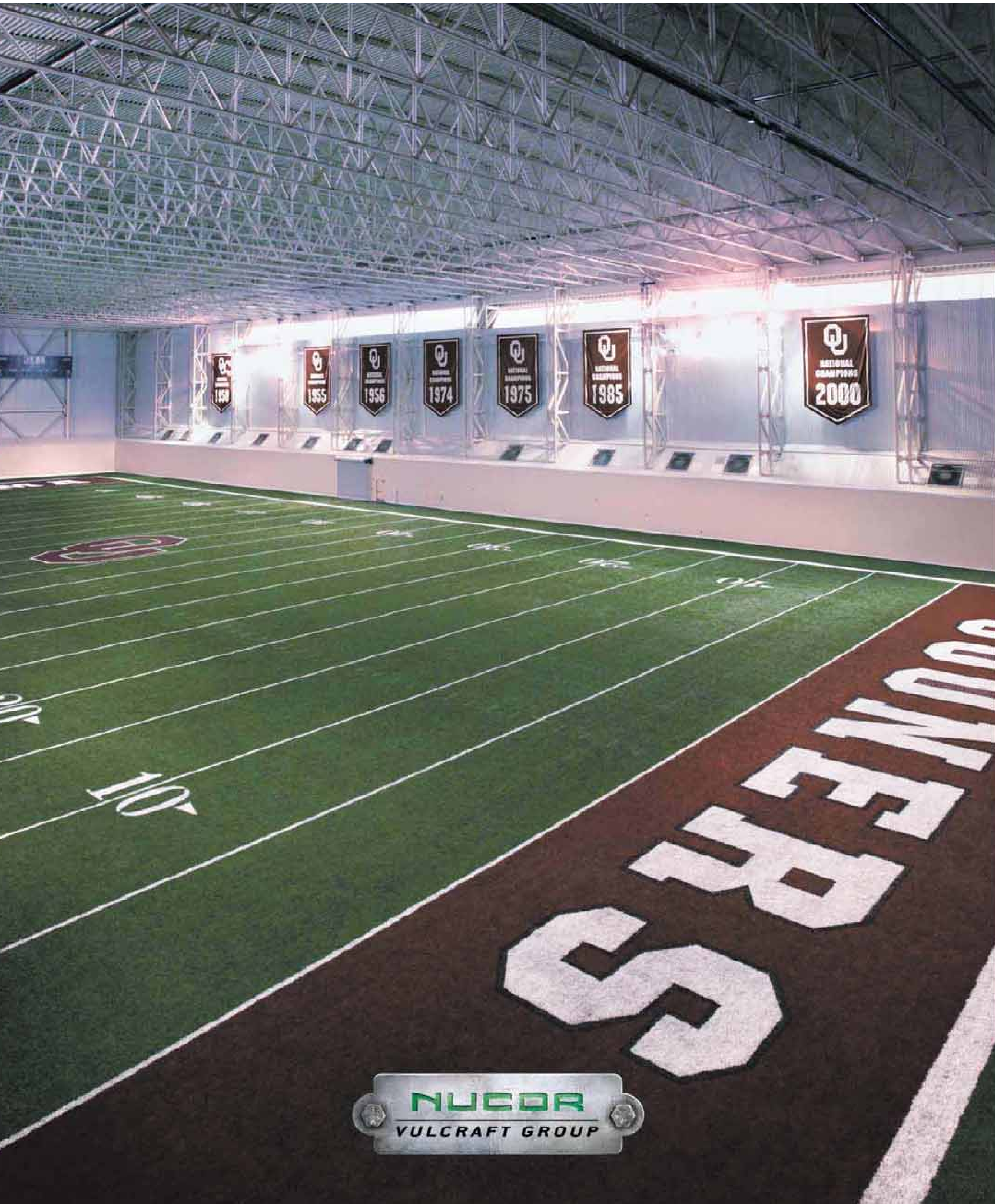
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Record News

Highlights
p.26 **Hurricane rebuilding report**
p.30 **Architect James Freed dies**
p.33 **AIA sets sustainability agenda**
p.34 **Special preservation report**

2006 AIA Honor Awards

On January 13, the AIA announced the 2006 recipients of the AIA Honor Awards, the profession's highest recognition of works in architecture, interior architecture, and urban design. Selected from more than 680 submissions, 30 recipients will be honored in June at the AIA National Convention and Design Exposition in Los Angeles. *Sam Lubell*

English Residence, by Chu + Gooding Architects.

Honor Awards for Architecture

Ballard Library and Neighborhood Service Center, Seattle, by Bohlin Cywinski Jackson
Bigelow Chapel, New Brighton, Minn., by Hammel, Green and Abrahamson
Frieder Burda Collection Museum, Baden-Baden, Germany, by Richard Meier & Partners Architects, with associate architect Peter W. Kruse-Freier Architekt
Children's Museum of Pittsburgh, by Koning Eizenberg Architecture, with Perkins Eastman Architects
Joseph A. Steger Student Life Center, University of Cincinnati, by Moore Ruble Yudell Architects & Planners, with associate architect glaserworks
Museo Picasso Malaga, Malaga, Spain, by Gluckman Mayner Architects, with associate architect Camara/Martin Delgado Arquitectos
TRUMPF Customer and Administration Building, Ditzingen, Germany, by Barkow Leibinger Architects
Visiting Artists House, Geyserville, Calif., by Jim Jennings Architecture
Washington Convention Center, Washington, D.C., by TVS D&P Mariani, with associate architects Thompson Ventulett Stainback, Devrouax & Purnell Architects Planners, and Mariani Architects Engineers
Washington State Legislative Building Rehabilitation, Olympia, Wash., by SRG Partnership, with associate architect Einhorn Yaffee Prescott
William J. Clinton Presidential Center, Little Rock, Ark., by Polshek Partnership Architects, with associate architects Polk Stanley Rowland Curzon Porter Architects, Witsell Evans Rasco Architects and Planners, and Woods Caradine Architects

Honor Awards for Interior Architecture

Bizarre, Omaha, Nebr., by Randy Brown Architects
English Residence, Beverly Hills, Calif., by Chu + Gooding Architects and interior designer Kay Kollar Design
Google Headquarters, Mountain View, Calif., by Clive Wilkinson Architects
Karla, Miami, by Rene Gonzalez Architect
Mother London, London, by Clive Wilkinson Architects
Nissan Design America, Farmington Hills, Mich., by design architect Luce et Studio Architects, with executive architect Albert Kahn Associates
The Royal Bank of Scotland PLC, Houston, by DMJM Rottet
Schepens Eye Research Institute Laboratory Renovation, Boston, by Payette
Skillman Library, Lafayette College, Easton, Pa., by Ann Beha Architects
Temporary Theater, Portland, Ore., by BOORA Architects
Woolly Mammoth Theatre Company, Washington, D.C., by McInturff Architects

Honor Awards for Regional and Urban Design

The Arc: A Formal Structure for a Palestinian State, West Bank and Gaza, Palestine, by Suisman Urban Design

Ballard Library and Neighborhood Service Center, by Bohlin Cywinski Jackson.

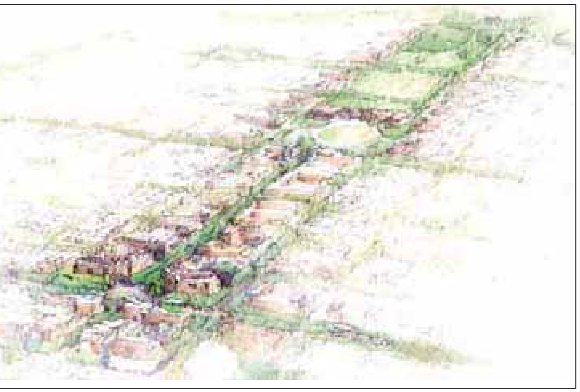
Museo Picasso Malaga, by Gluckman Mayner Architects.

Chippewa/Cree Reservation Plan, Box Elder, Mont., by Ferdinand S. Johns, AIA, with Allison Orr and the Community Design Center, Montana State University (MSU) School of Architecture
Lloyd Crossing Sustainable Urban Design Plan, Portland, Ore., by Mithun Architects + Designers + Planners
Millennium Park, Chicago, by Skidmore, Owings & Merrill
North Point, municipalities of Cambridge, Boston, and Somerville, Mass., by CBT/Childs Bertman Tseckares, with associate architect Greenberg Consultants
Swiss Government Piazza, Bern, Switzerland, by Lee & Mundwiler Architects, with associate architect Stauffenegger & Stutz
Martin Luther King Plaza Revitalization, Philadelphia, by Torti Gallas and Partners
University Square, University of British Columbia, Vancouver, by Moore Ruble Yudell Architects & Planners, with associate architect Hughes Condon Marler: Architects

PHOTOGRAPHY: © BENNY CHAN, FOTOWORKS (LEFT); NIC LEHOUX (BOTTOM); GLUCKMAN MAYNER ARCHITECTS (TOP RIGHT)

SPECIAL HURRICANE REPORT

New Orleans reveals first master plan for rebuilding



The committee presented a rough conceptual sketch of a future New Orleans neighborhood.

On January 11, members of the Urban Planning Committee of New Orleans Mayor Ray Nagin's "Bring New Orleans Back Commission" (BNOBC) presented their long-term vision for rebuilding the city. Dubbed "comprehensive and aggressive" by committee chair Joseph Canizaro, a local real estate developer, and "controversial" by Mayor Nagin, the plan marries visionary concepts for a "bigger, better New Orleans" with tangible deadlines for participants.

John Beckman, principal with Philadelphia firm Wallace Roberts & Todd (WRT), master planners for the BNOBC, detailed the plan to a packed (and often contentious) room at the Sheraton New Orleans. After Katrina, 50 percent of New Orleans houses were flooded with at least 4 feet of water, Beckman said. The storm ravaged about 110,000 houses, and at least 25,000 of the city's 38,000 historically significant properties were damaged.

The urban planning committee's rebuilding framework includes not only a call for greater flood and storm water protection, but suggests, in some cases, using canals and canal edges for park space and setting up a citywide light-rail transit network to connect neighborhoods, downtown, the airport, and Baton Rouge and the Gulf Coast. The plan also embarks on improving neighborhood infrastructure, schools, cultural and community facilities, health facilities, and retail.

The plan is based on the premise that the federal government will provide the promised hurricane protection system, Canizaro said. Before making specific neighborhood plans, urban planners are awaiting FEMA's release of its base-flood-elevation maps, which could determine where redevelopment will be feasible.

The committee's plan encourages Congress to pass the Baker Bill, which would finance a federal buyout of heavily damaged homes for 100 percent of their pre-Katrina market value, less mortgage and insurance. The plan also supports creation of a Crescent City Rebuilding Authority, composed of paid professionals, to manage redevelopment. Beckman said the authority should have about a 10-year life span. He outlined the committee's ideas for financial support for the plan, including bonding options, tax credit incentives, below-market interest-rate loans, and separate funding institutions. The committee proposed a four-month delay in the issuance of building permits in heavily damaged areas, allowing time to assess their viability.

One of the biggest challenges faced by the committee, admitted Canizaro, is devising a long-term goal in the face of so many unknowns, including future population estimates and revenue streams. Meanwhile, the state is expected to release its own plans for rebuilding, and it is not known how the plans will merge. One of the primary concerns among local residents is that they will be excluded from the rebuilding process. Building committee director Reed Kroloff, dean of Tulane University's school of architecture, pledged to utilize all means, including the Internet and public access channels, to include residents in planning the rebuilding.

Residents are understandably wary, especially in light of the city's quick slating for demolition of storm-damaged homes in some neighborhoods. Initially, 55,000 homes were marked for demolition, says Tami Frazier, a spokesperson with the mayor's office. Citizens filed a lawsuit against the city to halt the demolition, and on January 18 a federal court ruled that homeowners must be given seven to 10 days notice before demolition. Locals also expressed concern that a third-party panel composed largely of nonresidents would determine the viability of neighborhoods that they feared were being viewed more as plans and abstract concepts than as their homes.

The commission now has its work cut out for it if it is to meet its self-imposed deadlines. By January 20, Kroloff and local architect Ray Manning, AIA, were to begin forming neighborhood planning teams. The two have pledged to have the groups organized by February 20, and to have them identify the number of residents committed to returning to New Orleans by March 20. By April 20, the committee hopes to secure funding to enable homeowners who don't want to rebuild to be bought out. By May 20, Manning and Kroloff will present the information gathered by the neighborhood planning teams. All committees of the BNOBC will make a final presentation on June 20, and the urban planning committee expects to complete a financial analysis, secure funding, and begin reconstruction by August 20.

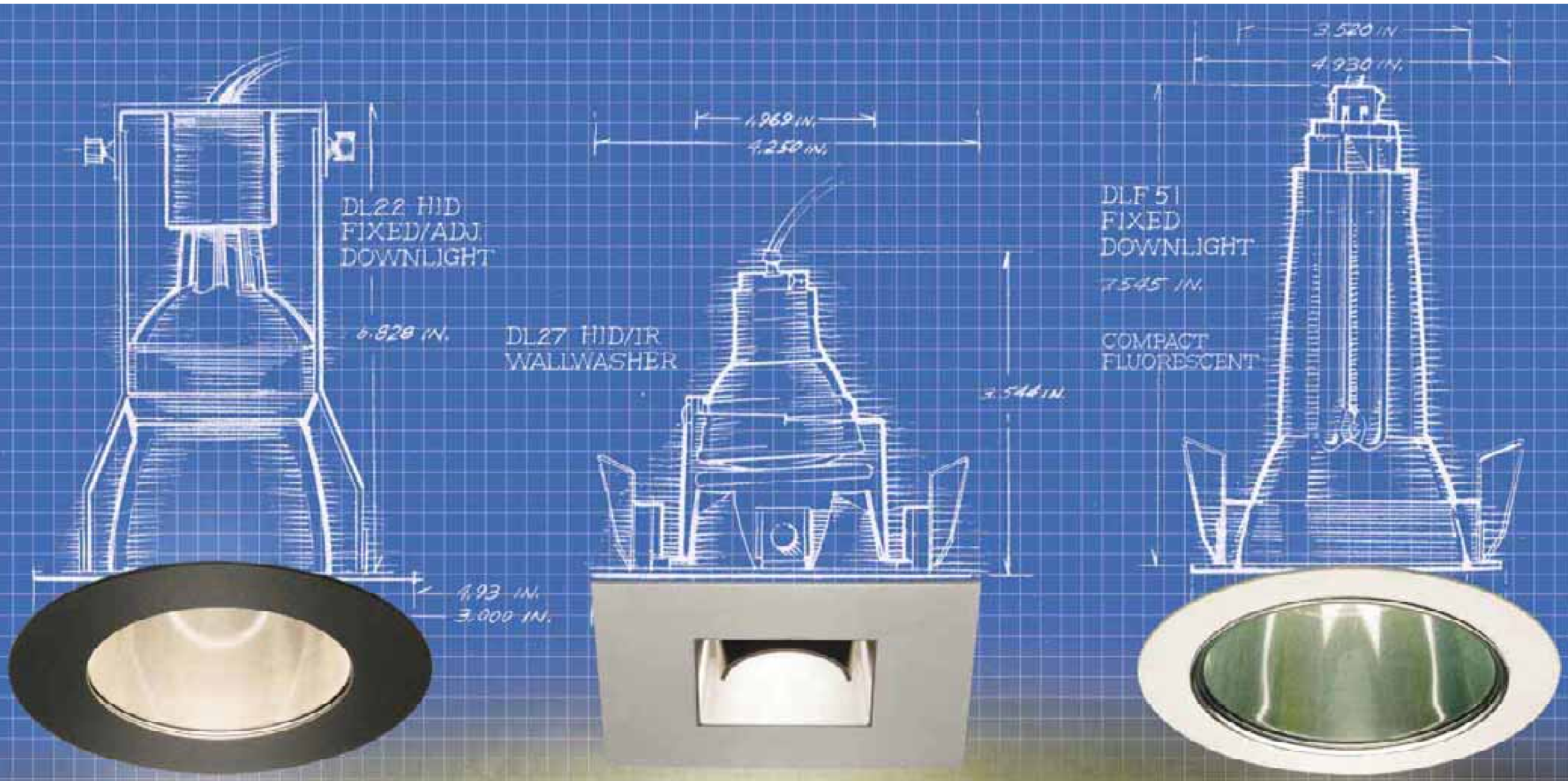
Through its efforts, the building committee is "setting up a model for the next major community that suffers a catastrophic event," Kroloff said. "More than half the country lives in an area of geographic instability." *Angelle Bergeron*

Congress approves $29 billion for Gulf rebuilding

On December 30, President Bush approved a bill that will send $29 billion in aid to the Gulf Coast, to help the region rebuild from recent hurricanes. The hurricane relief package was part of a defense appropriations measure, which the Senate passed on December 21 and the House passed on December 22.

For construction, the major element in the legislation was hurricane aid. It includes $11.5 billion in Community Development Block Grants, much of it expected to go to housing-related needs; $3 billion for the Corps of Engineers to rebuild levees in New Orleans (a breached levee in Plaquemines parish is pictured at left) and carry out other work in the region; $2.75 billion for the Federal Highway Administration, including money to rebuild area roads and bridges; and $1.4 billion to the Defense Department for repairs at Gulf Coast bases. The new relief plan is nearly twice as large as the $17 billion that President Bush had recommended, and it has a much heavier emphasis on infrastructure than on other other emergency funds. ***Tom Ichniowski***

IMAGES: COURTESY BRING NEW ORLEANS BACK COMMISSION (TOP); © TOM SAWYER (BOTTOM)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SPECIAL HURRICANE REPORT

World Monuments Fund helping to save two historic Gulf Coast homes

Two historic Gulf Coast homes damaged by Hurricane Katrina are receiving some much-needed help from the World Monuments Fund (WMF). The New York–based preservation group launched a restoration pilot program in December with $260,000 in start-up funding from American Express, the David Berg Foundation, and the Florence Gould Foundation. The two landmark residences, the Phillips House and the Hecker House, are located in Bay St. Louis, a small waterfront community 30 miles west of Biloxi, Mississippi.

The 1½-story antebellum-style Phillips House, built in 1840, has distinctive wood detailing, a raised central hall, and a broad gallery. The two-room Hecker House is a shotgun-type worker's cottage, which dates back to 1780. The homes are situated side-by-side along North Beach Boulevard, a historic district well known for its residential architecture in styles including Greek Revival, Queen Anne, and Colonial Revival.

The two houses sustained significant wind and flood damage and will require extensive repair and rebuilding. Their eventual resurrection is meant to call attention to the importance of preserving the area's heritage, and to show residents "alternatives to wholesale demolition," says Morris Hylton III, WMF's new project development manager.

A project timeline and budget have yet to be established. The Hecker has already been documented, disassembled, and stored to save the original timbers, siding, windows, and doors. Charles Hecker, its current owner, is planning to sell the building's lot. But he has donated its materials and remnants to the WMF, which is acting as project steward. The town of Bay St. Louis and the Hancock County Historic Society are seeking a new site.

The Phillips House, owned by local resident Dorothy Phillips, lost its wood siding, second story, and most of its front porch during Katrina. It will be documented and rebuilt at its current site with assistance from the Mississippi Heritage Trust and the Mississippi Department of Archives and History.

Workers dismantling the Hecker House.

WMF is also developing a demonstration project for a 19th-century double-shotgun house in the Holy Cross neighborhood of New Orleans, which it expects to roll out in early spring 2006. *Tony Illia*

Relaxed Casino siting rules prime Gulf building boom

A casino construction boom is quietly gathering on the Mississippi Gulf Coast to take advantage of the state's post-Katrina relaxation of siting rules that had restricted coastal casinos to floating locations.

"I expect to see Las Vegas–style hotels," says Beverly Martin, executive director of the Mississippi Casino Operators Association. She says many new megastructures should emerge within the next five years, with some existing properties also planning to add 20,000 to 90,000 square feet of retail space. Even though most owners have not announced plans, Martin says they are already in contact with architects and engineers as they prepare to move ashore.

The Hard Rock Casino in Biloxi, Mississippi, was badly damaged by Hurricane Katrina.

Mississippi Governor Haley Barbour signed a law on October 31, 2005, allowing casinos on the Gulf of Mexico to be built up to 800 feet inland. The move has already begun to impact the coast from Biloxi to Gulfport. The mayor of Biloxi has predicted that the city could have 15 to 20 casinos in the next three to five years, says spokesman Vincent Creel. The city, which already has nine casinos, expects to see an investment far greater than the $5 billion spent over the previous 13 years, he says. The move should also spark increased tourism as developers build more facilities to replace the casino barges and adjoined hotels, says Creel. The city sees private dollars as the key to recovery, and Creel says that proper infrastructure and utilities must be in place.

Landy's, owner of Las Vegas's Golden Nugget, has purchased 5.4 acres of land and is in talks with the mayor's office to move forward with its proposed $500 million resort and casino. The company is acquiring land from residents who lost homes or who would rather sell and relocate than rebuild, Martin says.

Harrah's Entertainment has committed to spending $1 billion for the construction of two casinos in Biloxi. They will be placed on either side of U.S. 90, the beachfront road that runs along much of the coast.

"Ultimately, all the casinos will move on land for competitive reasons," says Rick Quinn, C.E.O. of Copa Casino in Gulfport. The Copa is primed to begin building an onshore casino reported to be valued at "several hundred million dollars," says Quinn. He says it is awaiting approval of the Mississippi State Port, which owns the land.

The Silver Slipper, in Bay St. Louis, which suffered a total loss after Katrina, also expects a fast turnaround. The casino was in the process of moving to Lakeshore, Mississippi, from Biloxi before Katrina. John Ferrucci, casino C.O.O., says all plans were scrapped in favor of a land-based site. He says construction will begin December 15, and completion is scheduled for September 2006. "The key is to get the casino open and cash flowing," says Ferrucci. The Silver Slipper expects to complete its hotel element by September 2007 and the condominiums by September 2008. *E. Michael Powers*

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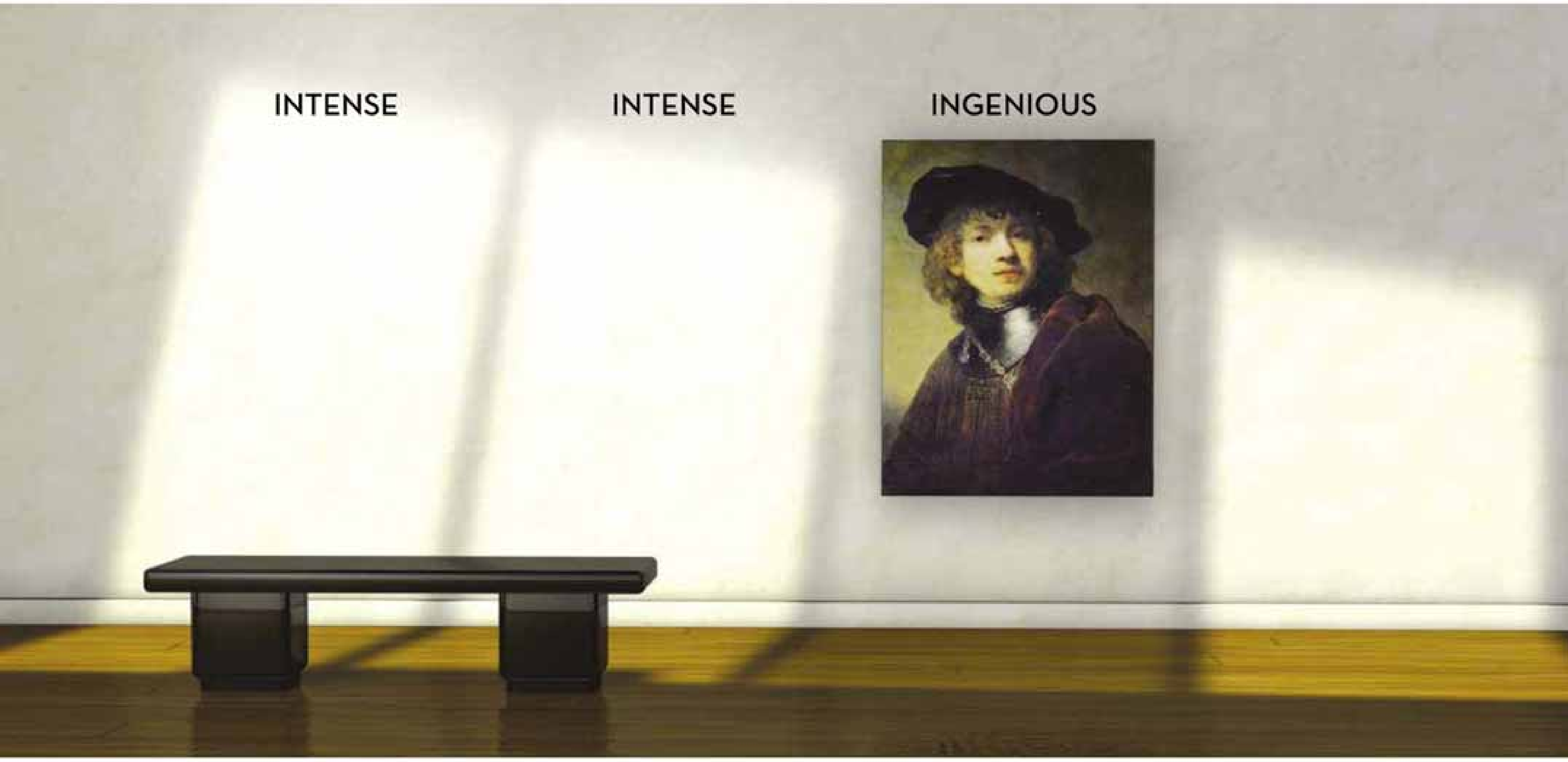

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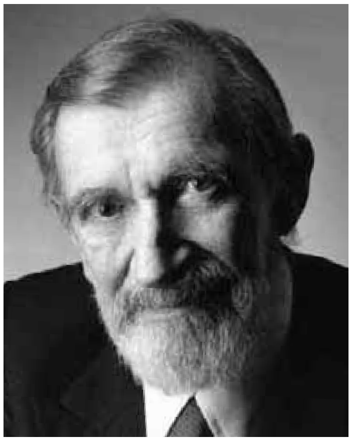
Architect James Ingo Freed, partner at Pei Cobb Freed, dies

James Ingo Freed, 75, architect of the Holocaust Memorial Museum in Washington, D.C., died December 15 at his home in Manhattan, after a decades-long battle with Parkinson's Disease.

Freed was a partner at Pei Cobb Freed, of New York City. Among his partners, I.M. Pei and Henry N. Cobb, Mr. Freed's signature was his ability to imbue contemporary materials—glass, steel, and stone—with a tactile authority.



James Ingo Freed.

Freed wrapped Manhattan's Jacob K. Javits Convention Center with a gridded membrane of reflective glass that dissolves the building's massive bulk, while conveying a dignified, monumental simplicity. He supported the building with a space-frame fretwork of rods and spherical socketed nodes that tested the technological limits of the construction industry when it was built in 1986. Its spectacular, light-filled lobby, echoing in contemporary terms London's 19th-century Crystal Palace, remains among Manhattan's most extraordinary interiors.

Freed struggled in the realization of the Holocaust Memorial Museum in Washington [RECORD, July 1993, page 58], worried that his building would either package the Final Solution too nicely or theatricalize it.

On visits to the death camps, he saw how the Nazis twisted the instruments of progressive industrial culture—medicine, law, engineering—to the manufacture of mass murder. Deeply affected, he created a skewed skylight, using metal details derived from what he'd seen so that the architecture itself could convey the enormity of the industrialized extermination of millions.

Born in Essen, Germany, in 1930, Freed had firsthand experience with the Nazi repression of Jews. He and his father rode streetcars through the night to escape the violence of Kristallnacht, "the night of broken glass." With his sister, he made his way to the U.S. via France and Switzerland in 1939. His parents arrived two years later on one of the last refugee ships.

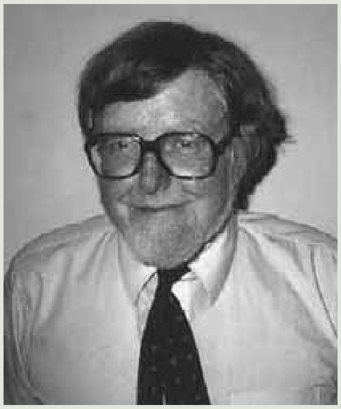
In Chicago, Freed attended the Illinois Institute of Technology (IIT), directed at the time by Ludwig Mies van der Rohe. He would return to Chicago to head IIT's architecture program in the mid-1970s. He briefly worked in Mies's Manhattan office before joining Pei's young firm.

He came into his own with the Javits Center and the Holocaust Memorial Museum. He went on to add a luminous addition to the Los Angeles Convention Center (1993). He completed the 3.1-million-square-foot Ronald Reagan Building and International Trade Center, also in Washington, in 1998 [RECORD, July 1998, page 58]. Its Classical exterior contrasts with the exuberant, Modernist monumental drama of its internal atrium—a split personality attributable to years of political meddling that compromised what should have been a masterpiece. The spatial intricacies of the San Francisco Municipal Library (1996) are as much a result of Freed's heroic effort to accommodate the city's myriad political constituencies as they are of his own architectural inclinations.

Freed won the opportunity in 1994 to design the National Air Force Memorial. But a years-long controversy developed over the design's potential to overshadow the adjacent Iwo Jima statue group. A new site was selected, Freed won a second competition, and construction has begun on the three stainless-steel spires that soar like contrails into the sky. *James S. Russell*

Donald J. Canty, former editor of *Architecture* magazine, dies

Donald J. Canty (right) , who died December 14 in Seattle, transformed the *AIA Journal* from a practice-oriented monthly into an acclaimed international design magazine. He renamed it *Architecture* in 1984, and edited it until the institute sold it to a commercial publisher in 1989. Had he been asked, he probably would have named *Architecture* his top professional accomplishment and passion.



Before joining the AIA in 1974, Canty founded *City*, a short-lived magazine championing urban life and the amelioration of poverty and social injustice. His zeal for racial equality spurred two volumes: *One Year Later* (1969), a response to the Kerner Commission Report on urban violence, and *A Single Society: Alternatives to Urban Apartheid* (also 1969). Canty, born in Oakland in 1929, started his career as an editor with *Western Architect and Engineer*, and then moved to New York City as a senior editor of *Architectural Forum* before launching *City*.

***Architecture* reflected Canty's broad interests. He broke ground with articles on energy conservation, adaptive reuse of old buildings, indoor air pollution, and with postoccupancy building evaluations. He created an annual review of new American architecture and devoted entire issues to cities of every description, works by previously unpublished architects, photographs by architects, and architects' drawings.**

Canty was nonconforming, rebellious, ethical, humane, and possessed of a quicksilver mind and a mulish determination, as attested by publishers who tried to bring him and his magazine to heel, or by people who offered physical help. Disabled by childhood polio, he moved with difficulty on metal crutches.

He liked to say that one reason for *Architecture*'s success was that it was not a democracy. Once hired, however, staffers were fiercely defended and given plenty of rope. Canty also assembled a stable of talented contributing editors, including Pulitzer Prize winners Robert Campbell in Boston, and Allan Temko in San Francisco. In its insistence on editorial independence, innovation, and casting a broad net, Canty's *Architecture* was a father to today's ARCHITECTURAL RECORD. Indeed, RECORD's editor in chief, Robert Ivy, FAIA, who freelanced for *Architecture* throughout the 1980s, credits Canty as a mentor. *Andrea Oppenheimer Dean*

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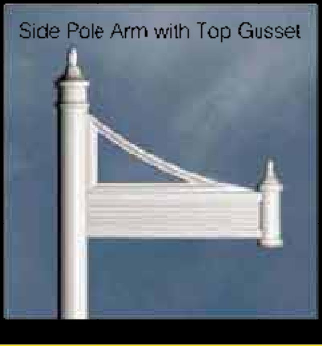

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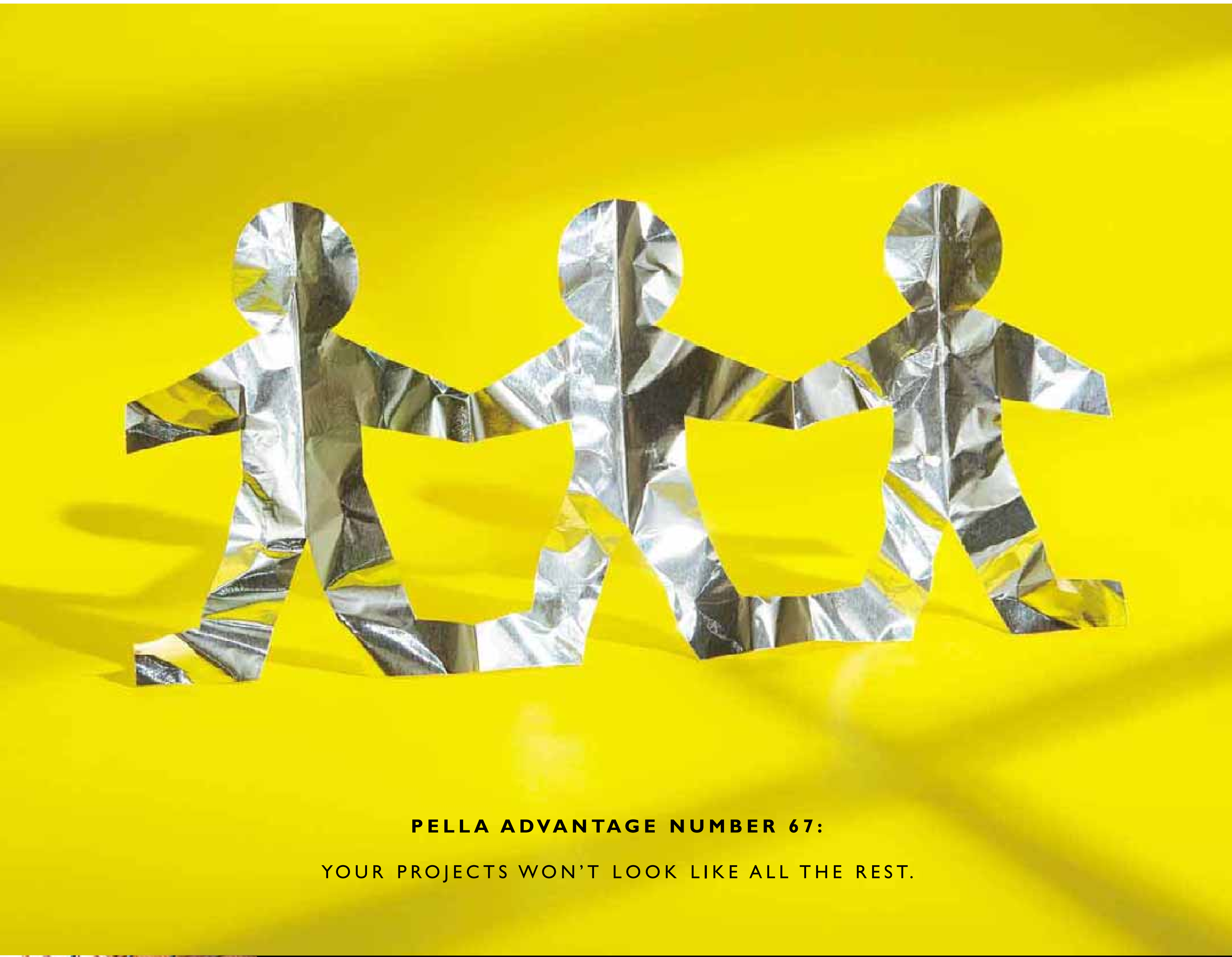

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AIA sets ambitious agenda for building sustainability

By now the statistics are familiar: Buildings use massive quantities of raw materials and consume nearly half of the energy and 70 percent of the electricity used in the U.S. In late December, in a bold step to reverse buildings' environmental impacts, the AIA's board of directors set a goal of slashing the fossil fuel consumption of buildings by 50 percent in four years. The goal includes additional reductions of 10 percent every five years. The AIA also expressed support for consensus-based standards for sustainable design.

The need to create a sustainability policy became clear from the growing body of research about global warming and buildings' environmental impacts, says R.K. Stewart, FAIA, 2007 incoming AIA president. He adds that the policy also derives from increasing requests among AIA members for information about designing green buildings.

To help develop the policy, the AIA hosted a summit in Washington, D.C., in July, 2005, where researchers presented sobering statistics about environmental degradation. Industry groups such as the U.S. Green Building Council (USGBC) and the Green Building Initiative (GBI) explained their green rating systems to AIA board members, the AIA Committee on the Environment (COTE), and others.

Stewart admits that a 50 percent decrease in fossil fuel use in four years is "an aggressive target." But experts say it is possible. "You can achieve a 50 percent reduction with existing building technology at no extra cost, by simply using the right design strategies," such as daylighting and passive heating and cooling techniques, says Ed Mazria, who has spent his career analyzing building energy consumption. (See Mazria interview, page 142.)

While careful to avoid endorsing any particular green-building rating system, the AIA says such systems should be consensus-based, with design and performance (energy savings) data verified by independent third parties.

Stewart acknowledges that AIA's statements are for now short on specifics. A sustainability task force will be formed in early 2006 to help the AIA implement its goals in practice and education, he says, and the board advised the AIA to hire a staff architect to further pursue the green agenda. Vivian Loftness, FAIA, 2005 chair of COTE, adds that architects also need to consider issues such as land use, transportation planning, and infrastructure.

According to Mazria, greener building design and construction could have a greater effect on reversing global warming than change in any other industry. "What the AIA has done is nothing short of monumental," says Mazria. "But now the real work begins." *Deborah Snoonian, P.E.*

MoMA's architecture chief leaving for Miami Art Museum

Terence Riley, who has been the Museum of Modern Art's chief curator of architecture and design for the past 14 years, announced in early November that he would leave in early March. And, on January 4, he revealed that he would become director of the Miami Art Museum, effective March 15.

"I never intended to stay at MoMA as long as I did," says Riley, who began his career as an architect. He adds that construction of the institution's new addition, designed by Yoshio Taniguchi, kept him on board at the end of his tenure. "After we finished construction, I started thinking about doing other things." Riley led several major shows at MoMA, including recent exhibitions about landscape architecture's emergence (*Groundswell*) and about contemporary Spanish Architecture (*New Architecture in Spain*). He also helped install the architecture department in the new building. Among his proudest achievements, Riley points to the highly popular Mies van der Rohe show, *Mies in Berlin*, which was held in 2001. He says it officially marked Modernism's return to public favor after years of derision.

Riley says he had no intention of taking a new job right away, but couldn't turn down the Miami position, which will allow him to play a significant role in another building project. After securing a major bond measure, the museum is about to build a new, 125,000-square-foot home in the city's Bicentennial Park. Its current museum, in Downtown Miami, measures only 30,000 square feet. No architect has been selected for the project yet, but Riley says he hopes one will be announced in six to 12 months.

Another major challenge, he says, will be convincing Miami's major art holders to donate funds and artworks to the museum, which will have much more space for acquisitions. Riley is already a part-time resident of Miami, having recently built a second home there. He will replace Suzanne Delehanty, who stepped down on December 31. *S.L.*

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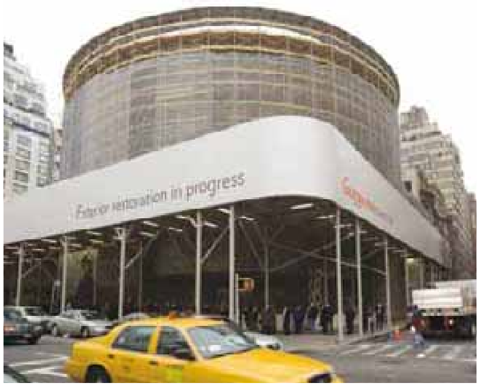


Guggenheim spruces up restoration with custom bridge

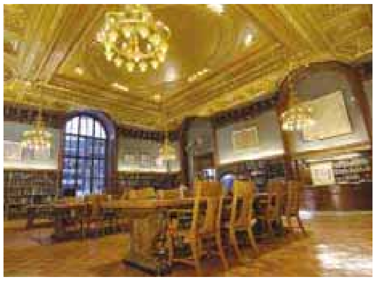
The low-hanging, blue-painted plywood pedestrian bridges that accompany construction projects and building renovations in New York are one of the banes of the city's streetscape. The structures often obscure entrances, create the illusion that businesses beneath them are closed, and cast ominous shadows onto passageways.

To help avoid such a situation, when Guggenheim Museum officials recently embarked on a complicated restoration of their famous Frank Lloyd Wright building, they had their pedestrian bridge custom-designed. The typical bridge comes in two code-mandated heights, either 8 feet or 16 feet above the sidewalk. The Guggenheim's pedestrian bridge looms 20 feet above, so the building's entrance is not obscured. The supports for the bridge are cut from I-beams, instead of the usual modular pipes, and don't require wooden shims or metal cross braces. And instead of being painted the typical blue, the 12-foot-high plywood fascia of the Guggenheim's pedestrian bridge actually serves as a slick billboard. A red vinyl graphic of the museum's name is applied onto panels that are a light beige color. "When people come to see the building, they are coming for the aesthetic experience, so it would have been discordant if the first thing they saw was ugly scaffolding," says Guggenheim spokesman Anthony Calnek.

The restoration of the Guggenheim (by a team headed by preservation architect Wank Adams Slavin Associates) is being performed to fix cracking in its concrete structure, which has occurred because it was constructed without expansion joints. The Guggenheim was one of the first buildings to use an acrylic-based paint on its exterior when it was built in 1959. According to Calnek, "It was mistakenly thought that the paint would act as a 'cocoon' around the concrete—that it would expand and contract along with the building, and that would compensate for the lack of expansion joints."

The building's exterior has now been stripped of its white paint, and its bare Gunite walls are visible for the first time since it was built. The project is still in a diagnostic phase. The actual restoration work, which involves plugging the cracks, is expected to begin this summer and will last about a year. *Alex Ulam*

New York Public Library restores another beautiful space


The regilded ceiling draws attention.

A steady stream of visitors has been transfixed by the restored Beaux-Arts ceiling in the New York Public Library's Lionel Pincus and Princess Firyal Map Division. Carrère and Hastings designed the two rooms and the mezzanine that comprise the 7,000-square-foot space in 1911. The area was closed for nine months while New York firm Davis Brody Bond completed the $5 million renovation, and reopened on December 15. The firm completed the library's last major renovation, to its main reading room, in 1998.

Project architect Julia Doern focused on restoring finishes in the Map Division's reading room, which had been browned and dulled by pollution. The original 20-foot-high ceiling's extraordinary decorations included Dutch metal, an inexpensive finish sometimes substituted for gold leaf. The firm relied on the "artistry," says Doern, of contractors to apply polychromed designs with red and green paint, befitting the original room. The ceiling was regilded and repainted based on the original ornamental work. The renovation also involved designing a new, larger reference desk, removing World War II–era black-out paint from windows, and restoring the red quarry floor tiles which had originally been imported from Wales. *Sarah Cox*

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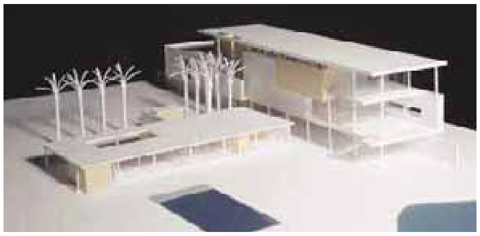
Garnier's Monte Carlo Opera completes renovation

The Opera's majestic auditorium.

Two years after closing for a renovation by French architects Alain-Charles Perrot and Rainier Boisson, Charles Garnier's Beaux-Arts-style Monte Carlo Opera House reopened last month. Inaugurated in 1879, it was completed four years after Garnier's Paris Opera House.

The $32 million restoration included an overhaul of the roof, the stage, the orchestra pit, and the replacement of backstage mechanical equipment, as well as structural work on the foundations. Beneath the auditorium, 106,000 cubic feet of rock were excavated to create additional space for artists' dressing rooms and a new air-conditioning system. In the main auditorium, which took Garnier only eight months to build, 522 Mohair-covered seats, gold-leaf decor, and a 16-foot-high chandelier all underwent restoration work.

Financed by local government and the building's owner, the Société des Bains de Mer, the complex project required the installation of up-to-date equipment while "faithfully restoring the roofing, facades, and the interior decoration," says project director Alain Desmarchelier. *Robert Such*



Rudolph's Revere House adds addition to help save original

Revere House, built in Sarasota, Florida, in 1948 by architect Ralph Twitchell and his then-assistant Paul Rudolph, has begun restoration by local architect Guy Peterson. The property will now include a freestanding, 4,800-square-foot addition (at right in photo, left), in order to bring the waterfront property value up-to-date.

The original house was one of eight prototypes commissioned by the Revere Quality Institute to demonstrate industrial materials' appeal in private residences. Peterson's goal is to restore the original house (which will serve as a cabana for the property's new pool) via its original working drawings, and to keep the new house true to the original's vocabulary. Both buildings will use the same materials: steel, glass, structural concrete, plywood—and similar shapes: horizontal planes, cubes, and slabs. Peterson's strategy is to keep the living spaces open so the new house doesn't overpower the original. The project is set to be finished in July. *Dianna Dilworth*

Modern movement for Neutra House

Neutra's gem, on wheels.

A simple shack behind a bamboo thicket in Los Altos, California, turned out to be one of the most significant examples of Richard Neutra's residential work outside of Southern California. The building was recently moved to save it from demolition.

The 980-square-foot house was originally part of a composition of three small, redwood-clad cottages located in an orchard near Stanford University. Neutra designed them between 1935 and 1939. By 2000, the escalation of real estate prices meant the land was far more valuable than the building, so local designer Miltiades Mandros, Assoc. AIA, working with the house's owner, John Gusto, organized a campaign to relocate it.

The owner of the house donated it to the Los Altos Community Foundation, and Los Altos politicians approved moving the house to city-owned land in late 2005. The community has raised two thirds of the funds to move and restore it. On November 20, it was lifted off its foundation, sawed in half, and moved to a nearby orchardlike setting. Local architect Mark Sandoval, AIA, will help put the pieces back together. The restored house will serve as a meeting space for the Los Altos Community Foundation, other organizations, and perhaps as a local architectural museum. *Kenneth Caldwell*

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News Briefs

GSA creates new post to help chief architect The U.S. General Services Administration (GSA), which is still searching for a new chief architect to replace Ed Feiner, FAIA, who left roughly a year ago, has created a new position to help the chief architect manage construction issues.

The new position of Assistant Commissioner for Capital Construction Program Management was posted on December 9. According to the GSA posting (www.gsa.gov), the job will entail giving advice on all policy matters concerning the management of the Public Building Service's capital design and construction program. The position is vital, says GSA commissioner of public buildings David Winstead, because of the huge number of GSA construction projects. "Everyone is struggling with material cost increases and trying to find ways to deliver these projects on budget," he says. As of December, the GSA had about 200 projects under way, at a cost of about $11 billion. Sixty-four are new construction, and 112 are renovation projects.

GSA's new U.S. Courthouse in Seattle.

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Feiner left the position of chief architect just under a year ago, after serving since 1996. He was highly influential in establishing the GSA's Design Excellence Program, started in 1993. He later headed the program, which helped streamline and improve the architectural selection process for federal buildings. GSA employee Les Shepherd, who was deputy chief architect from 1998 to 2002 and director of federal buildings from 2002 to 2005, has been filling in as chief architect since last February. The GSA posted a call for a new chief architect in April 2005, but closed it at the end of May, citing, says Winstead, a lack of qualified candidates. The GSA reposted the position in December, and is now recruiting more aggressively. *S.L.*

Japanese architect falsified earthquake data Japanese Architect Hidetsugu Aneha recently admitted to falsifying building-earthquake-resistance data on several projects in order to save money and win contracts, causing a national scandal in Japan.

Aneha runs a small firm in Ichikawa that has played a role in nearly 200 structures, including high-rise residential towers, hotels, and temples. On November 17, he confessed to designing 21 buildings in recent years that would not withstand a moderate earthquake.

Japan is located atop four tectonic plates, making it especially prone to earthquakes. Because of the risk, the country is known for its exceptionally strict codes.

Aneha, under pressure from developers, apparently used less structural steel than required, to reduce construction costs. His admission prompted several hotels to close. Condominium owners have fled their homes, while construction has stopped on other Aneha-related projects. By mid-December, officials had identified 57 buildings with deliberately underdesigned seismic resistance—all with fraudulent documentation—and had ordered most to be demolished. The local police are conducting an investigation into possible criminal behavior. *T.I.*

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Holl designing Denver courthouse Steven Holl Architects, in collaboration with Denver-based firm klipp Architecture, has been selected as leading designer for a new downtown courthouse in Denver. The project will be the centerpiece of the city's downtown Justice Center, which will include the courthouse, a new post office, a new detention center, and a renovated county jail. The courthouse project is expected to break ground in spring 2007.

Holl was chosen for the $99 million, $335,000-square-foot District Courthouse over a short list that included Robert A.M. Stern, Foster and Partners, and Richard Meier & Partner. Designs are expected by April.

The Justice Center will be located in the corner of Denver's city government complex, called "Civic Center"—a large public park rimmed with government buildings and cultural institutions that serves as the heart of the city—on the western edge of downtown. The 430,000-square-foot, $114 million detention facility will be designed by Washington, D.C.–based Hartman-Cox Architects. *Cynthia Kemper*

James Tittle.

Tittle taking Kemper After spending almost five decades in a variety of state, regional, and national roles for the American Institute of Architects, James D. Tittle will receive the Edward C. Kemper Award for individual service to the AIA. Tittle founded Tittle Luther Partnership in Abilene, Texas, in 1957. He served as president of the Abilene Chapter of the AIA in 1973, and president of the Texas Society of Architects in 1993. His national positions have included a seat on the AIA board of directors, regional director for NCARB, membership in the American Architectural Foundation Board of Regents, and a series of appointments in the AIA College of Fellows. In Texas, he cofounded the Abilene Cultural Affairs Council and the Texas Cultural Trust as chair of the Texas Commission on the Arts in the 1990s. He now chairs the Abilene Cultural Affairs Council and Young Audiences, an arts-education program. *David Sokol*

Theodore Landsmark.

Landsmark wins Whitney Young The AIA has announced that it will honor Theodore Landsmark with its 2006 Whitney M. Young, Jr. Award, honoring social responsibility in the profession. Landsmark has been president and C.E.O. of the Boston Architectural Center since 1997. Currently, he is establishing the Robert Houseman and the Richard Kirkham Fund for Diverse High School Students Entering the Design Professions. As chair of the AIA Diversity Committee since 2002, Landsmark oversaw development of the Demographic Diversity Audit that was submitted at the AIA's December board meeting. He is also president-elect of the Association of Collegiate Schools of Architecture, for which two major objectives are "to significantly improve communication among faculty, and … to address seriously the issue of lack of diversity in our faculty and student bodies." *David Sokol*

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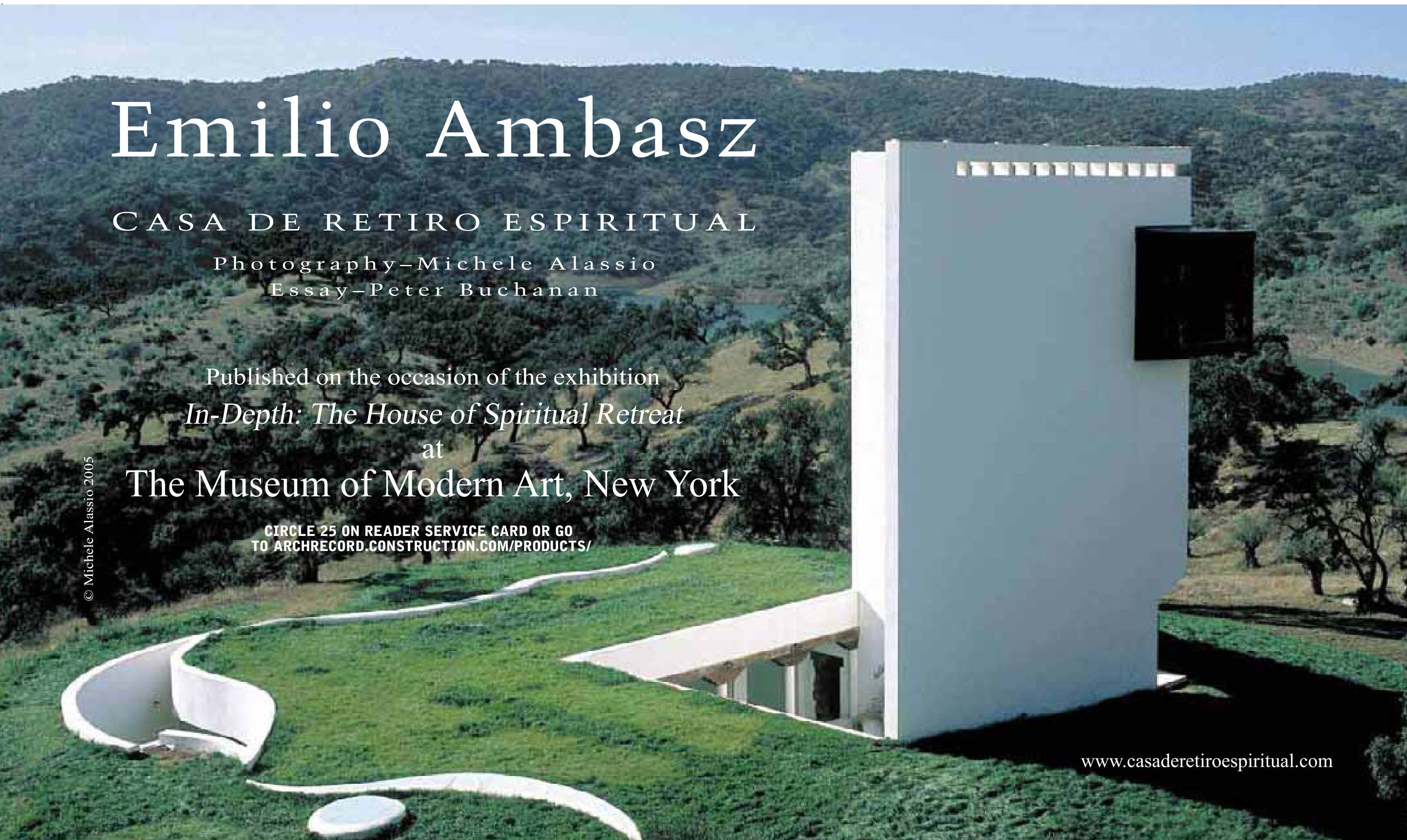
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For and about the emerging architect

archrecord2

Inspiration abounds this month, beginning with Design, featuring San Francisco Bay Area architect Thom Faulders, whose work is influenced by everything from kitchen sponges to electronics and athletic-shoe design. The theme continues in Work, with two of 2005's winning designs from the U.S. Department of Energy's Solar Decathlon, a competition as worthwhile as it is stimulating. Visit Design, Work, Live, and Talk at archrecord.com/archrecord2/ for more inspired new design.

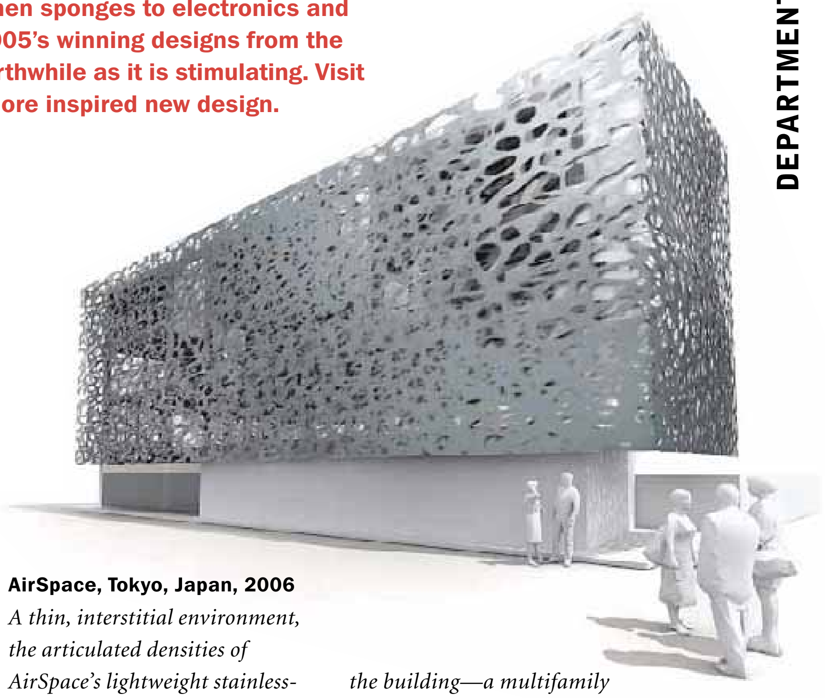
Design

Thom Faulders: Finding depth in surfaces

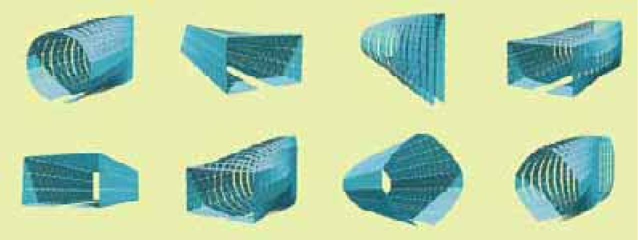
Thom Faulders appreciates contradictions, and his work exemplifies his ability to embrace the many sides of architecture—the conceptual and the built, the artistic and the practical, the fixed structure and the perceived space. One of his current projects, a thin, foliagelike, stainless-steel skin for AirSpace, a multifamily housing unit in Tokyo, demonstrates his ideas about the beauty in contrasts. "Surfaces can be a real opportunity," he says, "and for AirSpace, I was inspired by foam, or a sponge. As an exterior membrane for a building, the lightweight steel becomes a zone where artificial meets nature. It protects the occupants from the roadway while at the same time providing a fluid environment that changes when sunlight and weather interact with it."

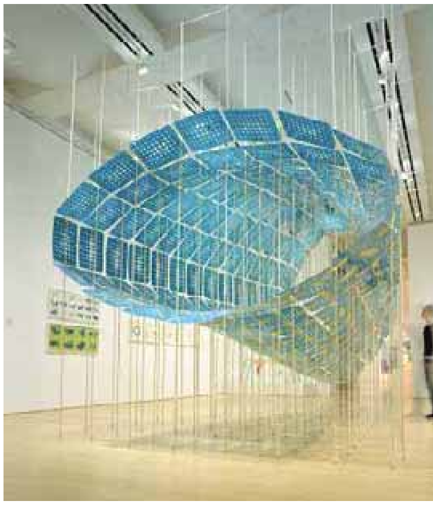
Faulders says he really found his way to architecture by studying it, leaving it and becoming an artist, then returning and starting a company called Beige Design; he's currently rebranding the company, but says he chose the name because his anything-but-bland designs contradict its neutrality. Looking for the differences in things, the contrasts, and elements about structures that continue to change is what most interests him about architecture. "We're hardwired to recognize difference," he says, "and although there has to be some constant medium to contrast it to, finding that difference, designing it, is fun." As an installation artist, Faulders says his work was so heavily concept-based that he found he was boring himself and feeling isolated. Getting back to the "meatspace"—a term coined by hackers and techno geeks to refer to the real space we live in, as opposed to cyberspace—helped him find an outlet for concepts that had some practical uses, too. "My work still has strong concept-based and academic underpinnings," says Faulders, "but now it exists in 'solid space.' " Another contradiction? "Yes, but I'm always looking for a dynamic way to express myself."

In seeking to express and create dynamic designs, Faulders says he finds inspiration outside of architecture, in industries such as electronics, aeronautics, and athletic gear. The iPod in particular has inspired him lately. "It's not just an artifact," he says. "It's flexible, customizable, and practical."



AirSpace, Tokyo, Japan, 2006
A thin, interstitial environment, the articulated densities of AirSpace's lightweight stainless-steel meshwork are layered in response to the inner workings of the building—a multifamily housing unit. Views are shielded behind the skin's foliagelike cover.



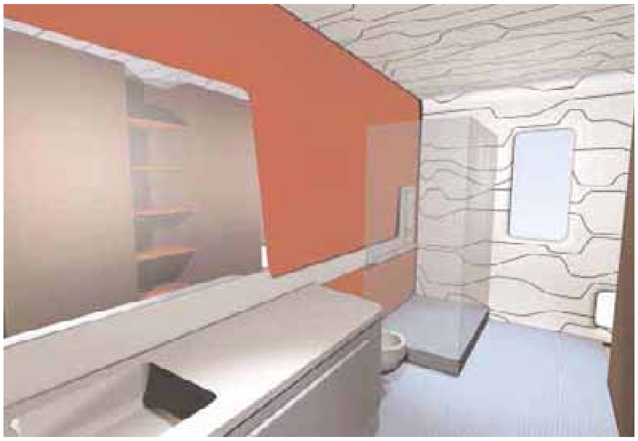


***Particle Reflex*, SFMOMA, San Francisco, 2001**
Part of the SFMOMA Experimental Design Awards exhibition, Particle Reflex, *made of acrylic panels, was tethered in the air with bungee cords, allowing for unpredictable connective patterns to emerge.*

IMAGES: COURTESY THOM FAULDERS

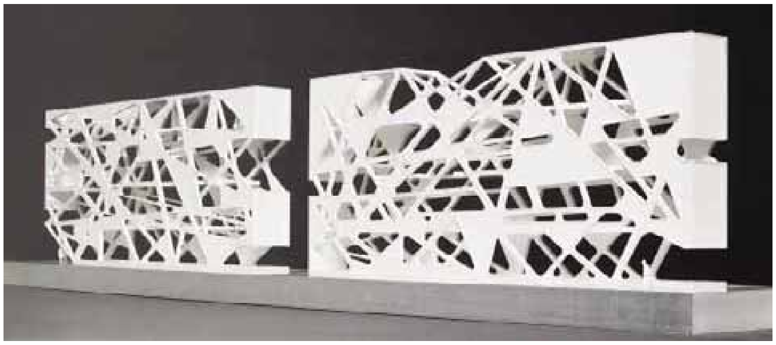
Claiming to be neither a geek nor a romantic when it comes to design, Faulders says he appreciates innovators, particularly the fresh visions of students. He currently teaches at the California College of the Arts, in San Francisco and Oakland. "I enjoy thinkers who keep pushing the envelope," he says. "Students do that." His own projects attempt that push, including installations such as *Particle Reflex*, his 2001 San Francisco Museum of Modern Art piece that used plastic panels held in midair by bungee cords to form a giant volume, at once structured and yet changeable due to environmental stimuli. Whether in plastic, steel, or concrete, Faulder's work is always seeking mutation. "I see materials as verbs," he says, "whether they have inherent, verblike qualities or become dynamic as I work with them." Faulders doesn't see architecture as everlasting. "Forces change buildings in time," he says. "Everything changes. That's what's interesting." ***Ingrid Spencer***

For more photos and projects by Thom Faulders, go to archrecord.com/archrecord2/.



Deform House/Private Gallery, San Francisco, 2006

This gallery addition is centered on a ceiling and rear wall lining that uses virtual tactics that appear to "react" to a person's presence in the space. Depending on an occupant's position, the randomly spaced grooves visually bunch, bulge, and align in indeterminate formations.



Chromogenic Dwelling, unbuilt

A competition proposal for multi-family housing in San Francisco, the Chromogenic Dwelling solves contextual massing issues by deploying a real-time electronic window system that continually changes its pattern according to the building's daily occupancy load and individuals' needs for adjusting light and privacy.

Work

Solar Decathlon winners bring on the sun

Designed by students at Cornell University (left) and the University of Colorado (above), these solar-powered mobile homes placed second and first, respectively, in the U.S. Department of Energy's 2005 Solar Decathlon.

Ben Uyeda is fighting a culture war. But it's not about guns, gays, or abortion—it's about solar power. Uyeda is the chief architecture officer for an ecofriendly developer called Independence Energy Homes. The technical problems in using photovoltaic cells to power houses were solved long ago, he observes, but the hard part is altering consumers' perceptions. "You can put 'bio' or 'eco' in front of anything and people won't care unless you communicate how it makes their lives better," says the 27-year-old Uyeda.

To demonstrate value, Independence will partner with developer Growth Corridor to build 70 homes in the Berkshire Mountains of Massachusetts later this year. They hope to convince buyers that photovoltaic cells are a capital expense that can be part of a mortgage and thus yield a fixed cost for energy. It's a persuasive argument, given the skyrocketing prices of conventional energy sources such as oil and electricity.

Uyeda, who received his master's in architecture from Cornell University in 2005, founded Independence with four other Cornell grads while they were competing in the U.S. Department of Energy's Solar Decathlon. Held semiannually in Washington, D.C., the event challenges student teams to design and build solar-powered houses. Richard King, the Decathlon's founder and director, says judges mainly look for curb appeal. "One of the barriers to solar power is that people think it's ugly," King explains. "That's why we're looking for photovoltaic systems integrated right into a house, rather than just stuck on as an afterthought or retrofit."

Cornell's house placed second in the 2005 Decathlon, surpassed only by the University of Colorado's entry. The Colorado team also hopes to take its design to a larger audience and is now working with the Genesis subsidiary of Champion Homes. Colorado's design innovates in more ways than just its architecture. The team invented "Bio-SIPs," structural insulated panels composed of soy-based insulation and SonoBoard, a lightweight composite paneling made of recycled paper and wood. Julee Herdt, an associate professor of architecture at the University of Colorado, cocreated SonoBoard in the 1990s. Although the product's manufacturer recently discontinued it, Herdt and the U.S. Department of Agriculture's Forest Products Laboratory are developing a newer version with an eye to commercial application in SIPs. Herdt hopes it will be ready for the next Decathlon in 2007. ***James Murdock***

For more information on the Solar Decathlon and the University of Colorado and Cornell University's winning houses, go to archrecord.com/archrecord2/.

IMAGES: COURTESY THOM FAULDERS (TOP TWO); CORNELL UNIVERSITY/JEFF WOLFRAM (BOTTOM LEFT); UNIVERSITY OF COLORADO (BOTTOM RIGHT)

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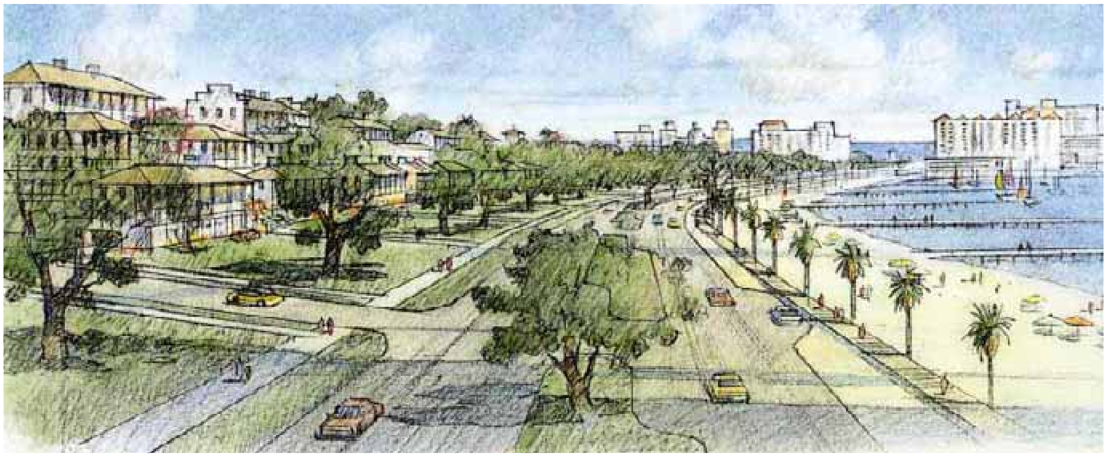
Will new plans for the Gulf drown it again, this time in nostalgia?

Critique

By Michael Sorkin

The recent report by the Congress for the New Urbanism (CNU) on the reconstruction of the Mississippi Gulf coast is impressive for the speed of its execution, its voluminousness, and its sound recommendations for transport infrastructure, neighborhood consolidation, and the 11 towns it examines. But, like so much CNU product, these useful ideas are weighted by a concrete kimono, an overwhelming fixation on *architecture*, a unitary fantasy of perfection that seeks to prescribe the precise character of every stick and stone in the state. Grafted to the collection of town plans (and promulgated in an accompanying "pattern book" being distributed in the tens of thousands at local Wal-Marts) are reams of model architectural and planning code, generic CNU boilerplate specifying correct forms of architectural behavior, including styles, setbacks, window types, plantings for the front yard, color schemes, gazebos, picket fences, ad nauseam.

The disproportionate prominence of prescription renders suspect much of the appropriately sketchy planning suggestions by implying a necessary connection between the logic of light-rail or centered neighborhoods and an architectural uniformity designed to render every shotgun house, corner store, and casino stylistically the same. This relentless specification is purely formal: almost completely absent from these "smart" codes is any real attention to the issues of natural systems so crucial in the wake of a disaster whose effects were founded in willful environmental ignorance. While the report groans with morphological instructions, it is virtually mute on mitigation strategies for the inevitable future storms and floods, and offers next to nothing about energy, cooling, materials, waste management, durable structures, wetlands restoration, barrier island protection, or flood-zone policy. To be sure, there is a brief laundry list of environmental proposals (generally no more than a sentence or two each) attached to the "regional framework" plan (build *one* certified green building in each town, promote energy efficiency, start recycling, use rubble for fill, etc.), but the weight of the CNU's interest is clear. Lip-service to environmental and social issues smothered in piles of maniacal detail on traditional acts as a nudge and wink to the people who pay the group's bills. What a pity that so much good effort is rendered ridiculous by being immunized against interpretation, by the dogmatic insistence that intelligent urbanism must always be subservient to the stylistic peccadilloes of a single imagination and its uptight tastes.

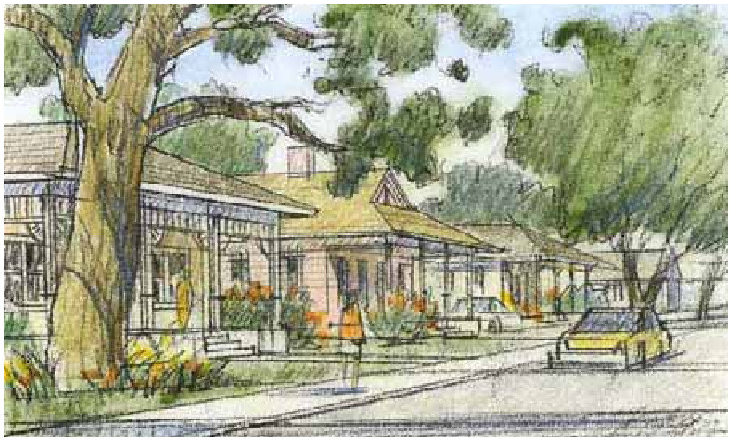


The New Urbanists and designers working with them envision a new waterfront boulevard for Biloxi, Mississippi.

RENDERINGS: COURTESY MOULE & POLYZOIDES ARCHITECTS AND URBANISTS

Because of this narrow fixation, the CNU project has become increasingly undemocratic in both style and content, advocating a way of building that is constantly defended as the people's choice—as if any such unitary version of "the people" exists in our marvelously diverse country—but posed in a way that offers only the most superficial and exclusionary options. As with environmental questions, the CNU report offers a dozen vague recommendations for "social issues" (planning should accommodate diversity, low-income housing should "look good," there should be rental and for-sale housing, only the private sector can produce what we need, etc.), but even these are ghettoized in their own separate—and easily ignored—report. Bromides to the contrary notwithstanding, the CNU—in its actual practice—has become the corporate advocate for monochrome, strictly residential, single-class, automobile-based, visually homogeneous towns and suburbs that increasingly camouflage with hypocritical piety the larger failures of policy—economic, social, and environmental—that they are allegedly designed to redress. By serving as the *architectes du roi* for Haley Barbour and his clique (a marriage brokered by Mississippi real estate developer Leland Speed), the CNU functions as a fig leaf and advocate for the Big Business programs and policies—including massive casino construction, upscaling of coastal development, environmental negligence, repression of diversity, dictatorial planning, the exile of the

Contibuting editor Michael Sorkin is the director of the urban design program at City College of New York.



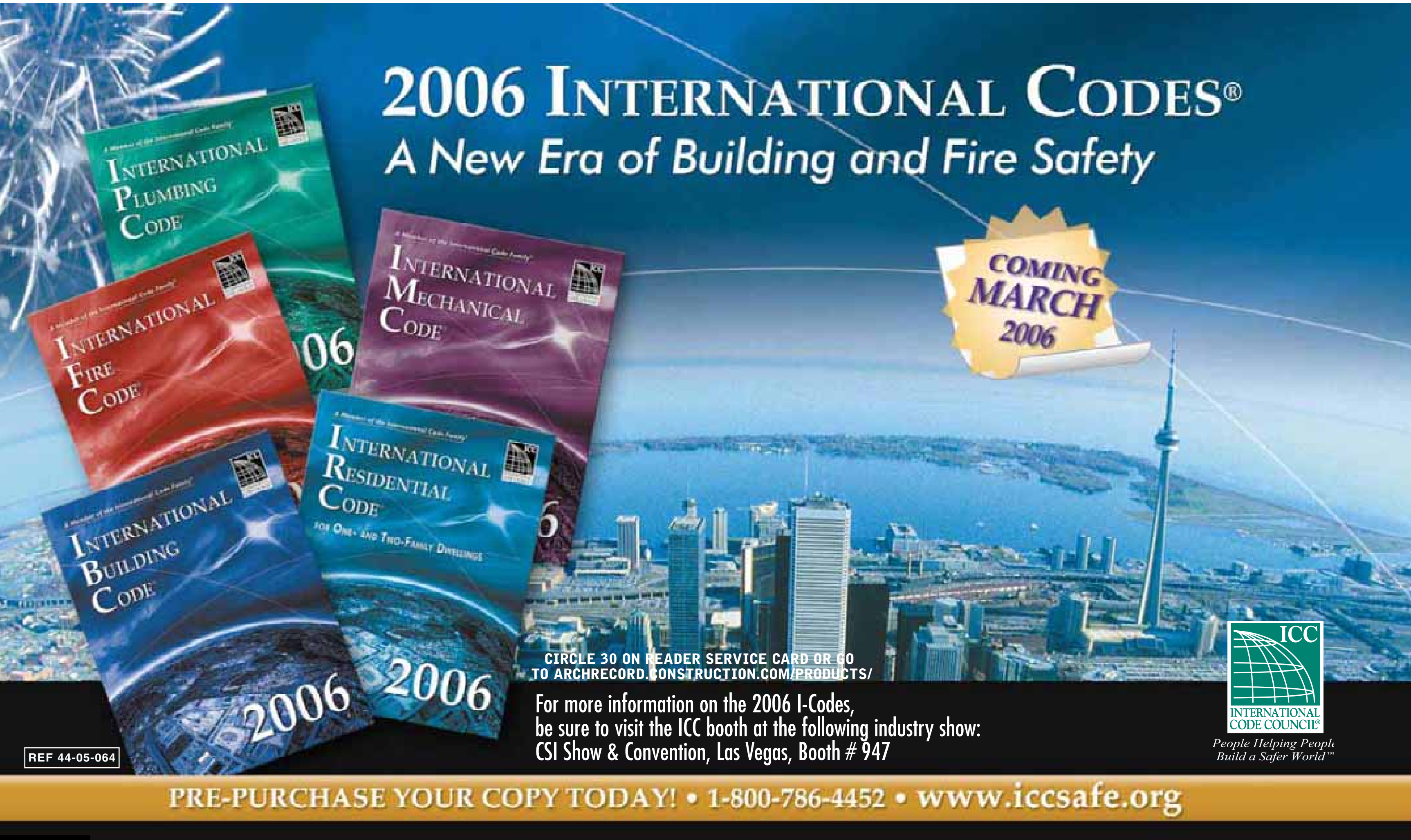
The CNU report includes renderings of typical neighborhoods and streets.

poor, and Disneyland culture—that their sanctimonious official line allegedly opposes. CNU pattern books have nothing to say about the rigid patterns of segregation that their smiley-face architecture so blithely reinforces.

By coincidence, I happened to be in Biloxi during the CNU charrette that helped guide the development of the group's plans for the Gulf, and I found it both impressive and horrifying. The CNU is nothing if not well organized and was able to summon more than 100 of its members from around the country to brainstorm in Biloxi. They arrived, took a bus tour, and got down to work, organized by the leadership into teams (each under the supervision of a trusted apparatchik) that dealt with individual towns and with common issues, including regional development, transportation, and architecture. Outside participation appeared limited to a small number of politicians and business types, well-intentioned and dedicated local architects standing in for actual grass-roots groups or "inexpert" local citizens and organizations. Of course, the media were there in droves, and Andres Duany circulated majestically among the teams, accompanied by a film crew to record his every pearl.

The charrette, an important and effective planning instrument, is an excellent medium for rapidly getting a large number of ideas on the table and for testing them by looking for the synergies and compromises that help professionals understand and incorporate the needs and desires of those they seek to serve. CNU charrettes, on the other hand, seem to be media for the recirculation and validation of ideas that are already decided, for telling people what's best for them. It is clearly not possible for a CNU charrette to produce a plan that is not based on Traditional Neighborhood Development, on old-timey architecture, on the whole range of self-evident and uniform truths that they seek to instigate with minimal inflection everywhere. Thus, the town teams find the sites for the Celebration-style "neighborhoods," while the architecture teams add stock schtick from headquarters to flesh them out. The outcome of these charrettes is never in doubt.

Something very similar appears to be happening in New Orleans. Planning initiative there has been placed in the hands of the Bring Back New Orleans Commission, which has just released its report. The commission is a mayorally appointed, big-business dominated group whose leader and most influential member is Joe Canizaro, a real estate developer and major Bush fund-raiser, who heads the commission's planning committee. Canizaro, a past president of the Urban Land Institute who has been called, among other things, the Donald Trump of New



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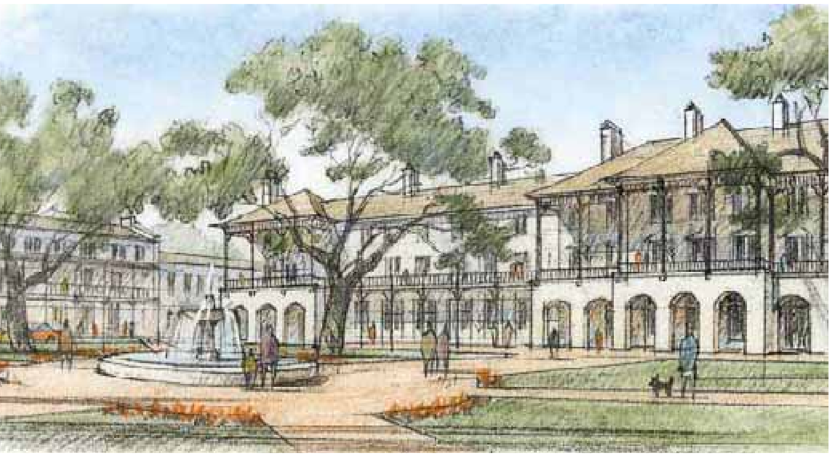
Orleans, is notorious for his 1990s role in fomenting the demolition of a large public housing project adjoining a 70-acre parcel he was seeking to develop.

Soon after its formation, the Bring Back New Orleans Commission turned, mirabile dictu, to the ULI to formulate a plan for the city as a whole. This was duly completed in late November to gales of protest. That plan, which has effectively framed debate since its release, was predicated on triage, the idea that certain parts of the city must be abandoned as too expensive to save. This structured disinvestment strategy—the inevitable *realpolitik* of the invincible bottom line—is nothing less than the return of 1970s-style “planned shrinkage” so vehemently denounced then as code for an assault on the poor. It’s no surprise that the places the ULI proposes to abandon are disproportionately the homes of low-income African-Americans.

The commission’s own plan (like Mississippi’s or Ground Zero’s) simply amplifies the ULI recommendations, reflecting, as well, the position of the Louisiana Recovery Authority (which has recently hired the CNU as its planning consultants), the RAND Corporation, and other groups that insist that New Orleans must contract by as much as 40 to 50 percent of its pre-Katrina population. Although the commission plan suggests that citizens be “allowed” to rebuild anywhere in the city, it simultaneously undermines the possibility. Not simply does it suspend permitting for another four months—frustrating individual rebuilding—but it gives destroyed neighborhoods only a year to get it together and reach an unspecified threshold of viability on their own. The intended effect is clear. By offering little or no public assistance for the effort and suggesting that if people are not able to find the wherewithal to reconstruct by the deadline, their neighborhoods will simply be bulldozed, the plan continues Katrina’s assault. In Canizaro’s words, “If a neighborhood is not developing adequately to support the services it needs to support it, we’ll try to shrink it.” It is clear which neighborhoods he is referring to. In the words of ex-Mayor Marc Morial, who is the current president of the National Urban League, the commission has offered a “massive red-lining plan wrapped around a giant land grab.”

What, one wonders, is the position of the CNU on this matter? To be sure, it will want any reconstruction to follow its conformist architectural taste and will praise the new light rail. But what about the real issues, those of justice,



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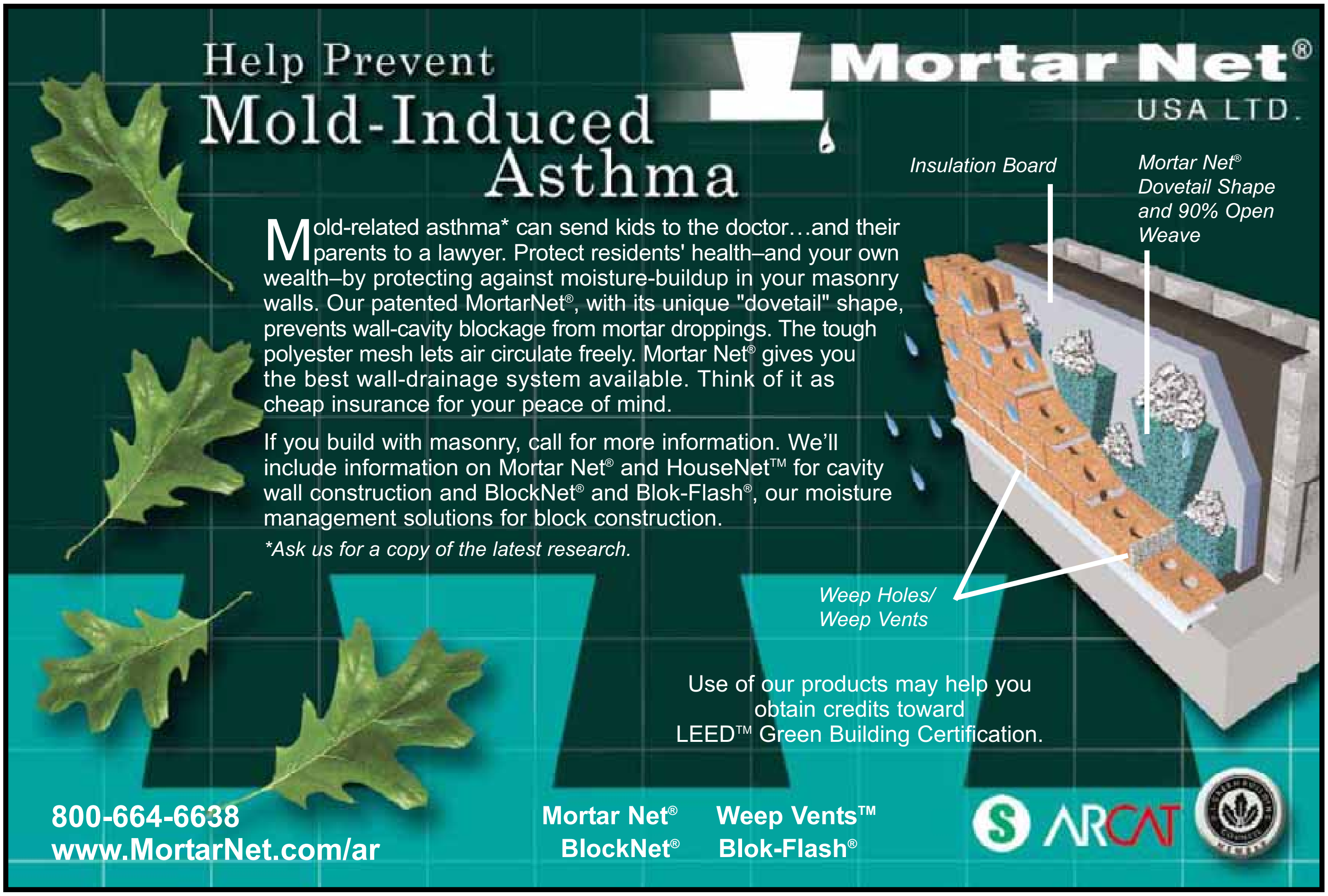
equity, responsible environmental stewardship, and diversity? With the volumes of publicity the group has been receiving (not least in this magazine), where are the ringing calls for state and national policies that are fair and sustainable? Where are the demands for citizen empowerment? Or the protests against the Catch-22 of “allowing” people to return and simultaneously making it impossible for them to collect insurance, get financing, or receive public services? Where is the heart? Where are the stirring words of the great Charter? I am not the first to observe that the CNU—as an ideological and organizational construct—is remarkably (and deliberately) similar to the Modernism it so acerbically criticizes for cruel formalist monomania and self-important manifestoes. Like the Congres Internationaux d’Architecture Moderne (CIAM), the CNU entered the world calling for spatial reform as an instrument for creating a better society, espousing principles both admirable and succinct. And like CIAM, the CNU is adamant in insisting that these goals can only be accomplished by the universal application of the right style of architecture, prescribed down to the clapboards and mullions.

The issue with such prescriptions is not the superiority of one uniformity over another, it’s the uniformity itself. Modernism, informed by a dreamy utopian socialist ideology, was grounded in the idea of producing a universal subject—“a new man”—and in architecture’s potential to help mold these reborn citizens, happy workers in identical flats set in a sunny, salubrious landscape. But that god failed when it became totalitarian, when equality was transmuted into identicality. The New Urbanists’ ideal subject may be a happy consumer committed to traditional family values but the fallacy is the same: the idea that architecture is not to be designed for people in all their messy, squalling, and delightful difference but as a means of assuring that they converge into behavioral sameness. Instead of towers in a park, CNU citizens will happily inhabit their dryvit Taras, rocking rhythmically back and forth on their obligatory porches, ears cocked for the tinkle of the approaching Good Humor man.

The core problem of New Urbanist dogma is neither its stated principles nor its architecture per se—there’s room for plenty of styles in a democracy—but its pious simulation of consent. While we can all be grateful for the restored interest in the textures and adjacencies of the traditional walking city that the CNU has helped to promote, there is something deeply wrong in the attempt to distill these relations into a uniform, replicable set of forms, to insist that any one architectural interpretation of “tradition” represents the accumulated wisdom of the species. In the effort to codify the architecture of the Gulf—or New Orleans—in narrowly fixed and eternal normative patterns, this slim set of “correct” generalities yields architectural Muzak and laws that insist you listen to nothing else. Get those damn pink flamingos out of the yard before the taste police arrive! Fixated on perfection, New Urbanism dreams of spotless cities resistant to patina and eccentricity, the soul-numbing sameness of multinational consumer culture. In its neocon brandscape, “aesthetic” considerations always trump social forms of variety, denying the real genius of urban growth and transformation: the power of the city to be its own social and morphological laboratory, its ability to define its singularity through the adventure of invention, conflict, and agreement. New Urbanism founders not on an excess of affection for the city but on an excess of fear of its uncontrollable diversity. ■



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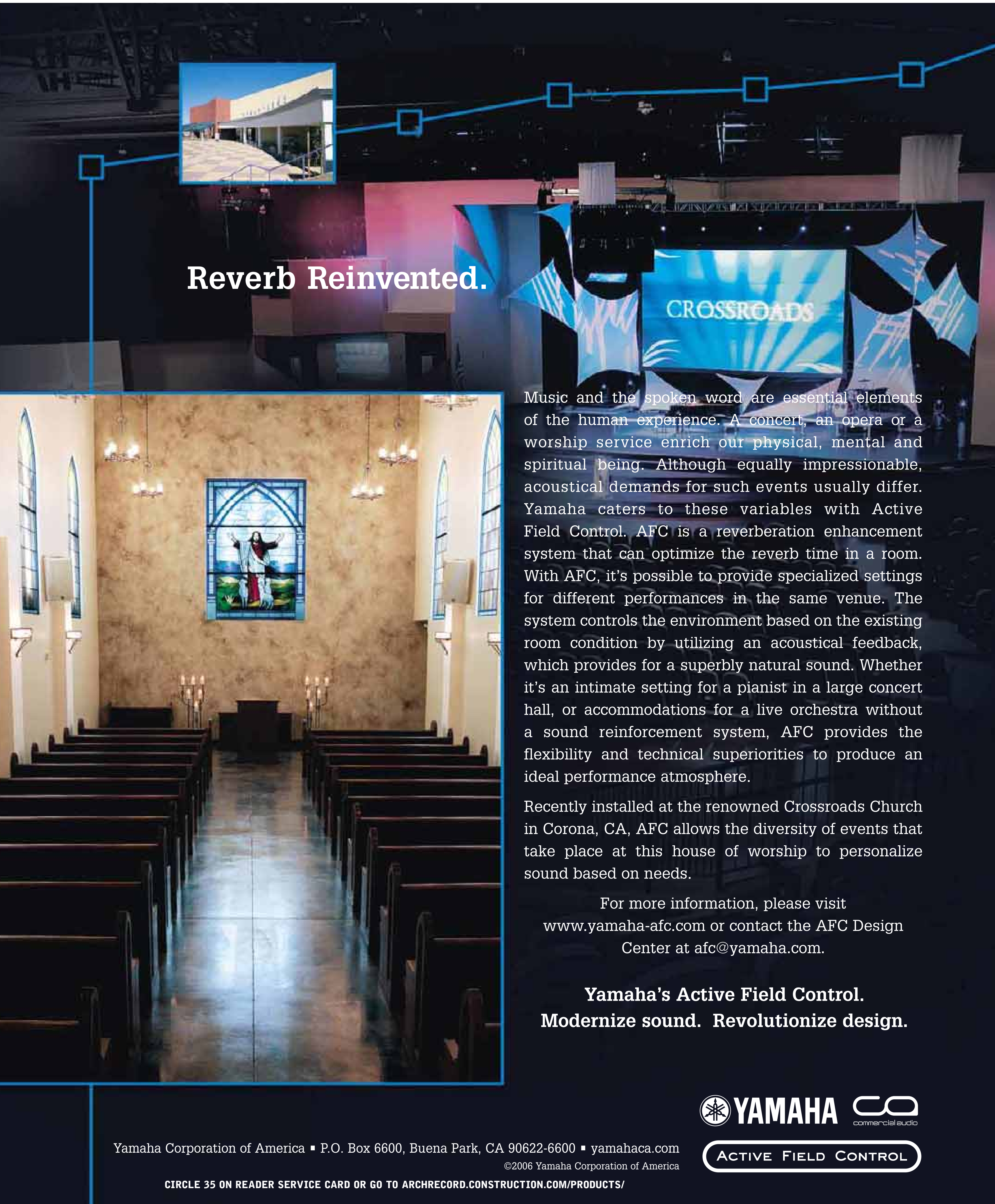

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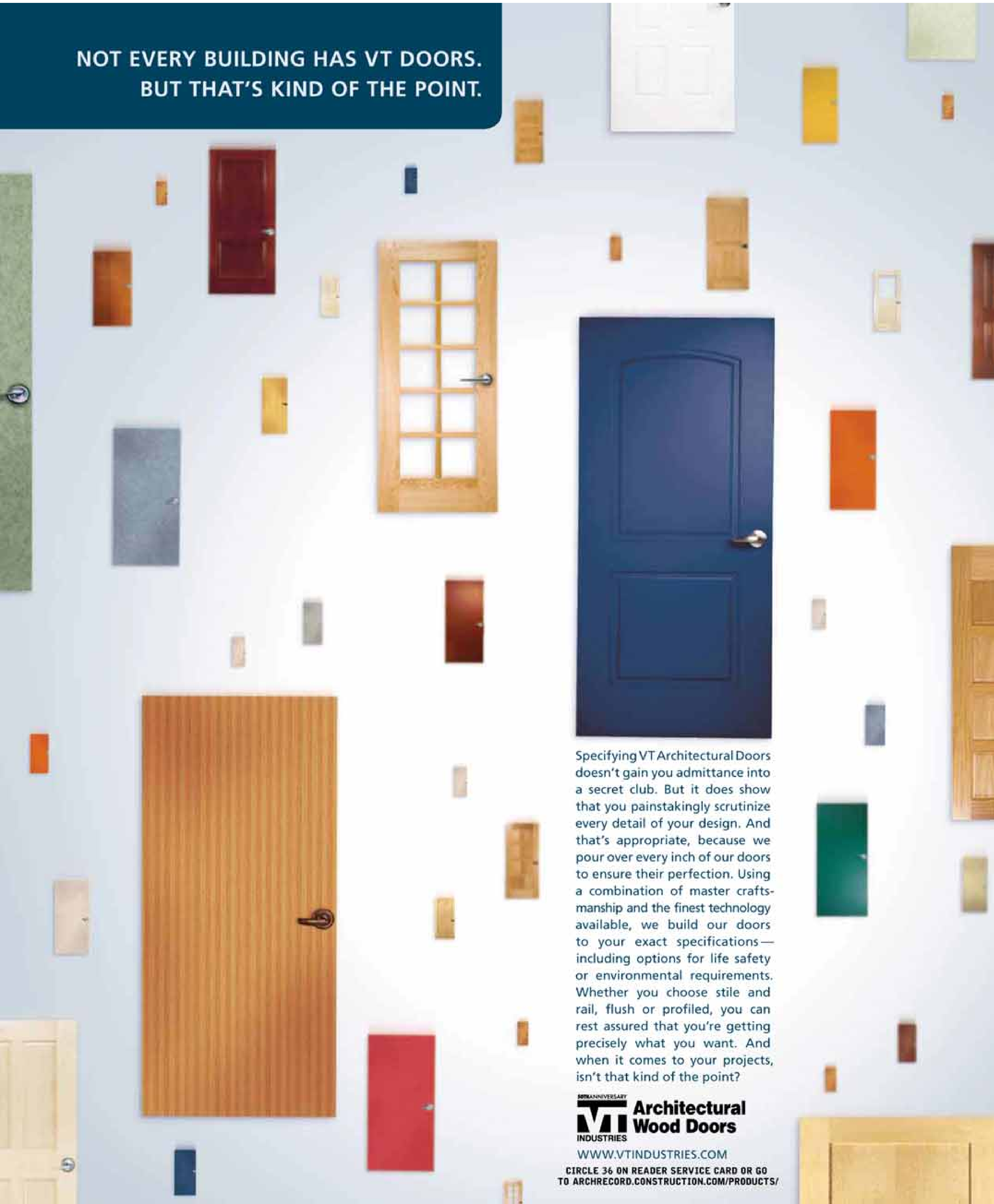

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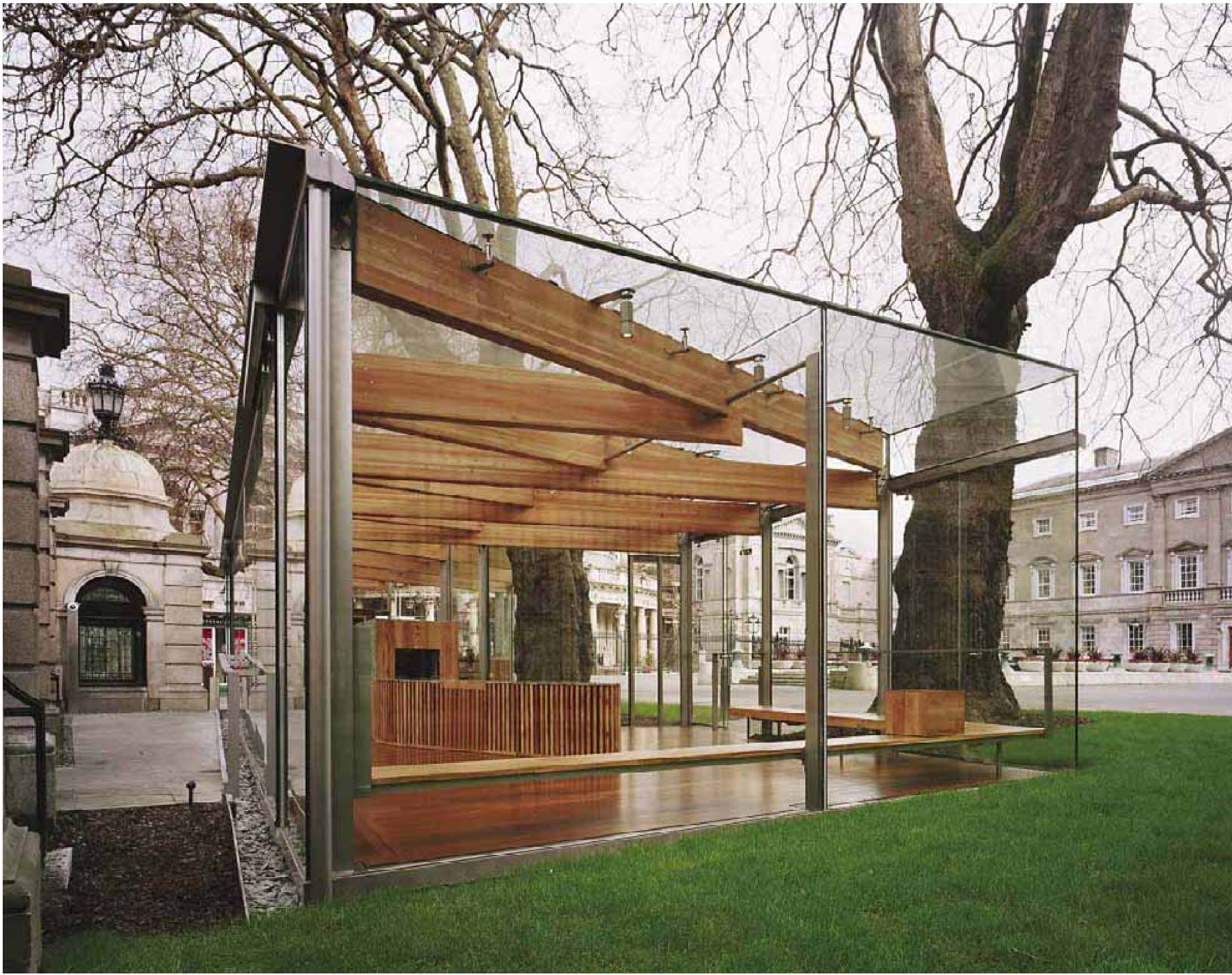


PHOTOGRAPHY: © MICHAEL MORAN PHOTOGRAPHY

By Beth Broome

Pavilion achieves security through transparency

Until recently, guards at Leinster House, home to the Republic of Ireland's parliament, the Houses of the Oireachtas, knew all that passed through the compound's gates in Dublin. A simple nod gained one entrance into the forecourt and from there on into the parliament, which since the 1920s has occupied the mansion originally built for the Earls of Kildare and Leinster.

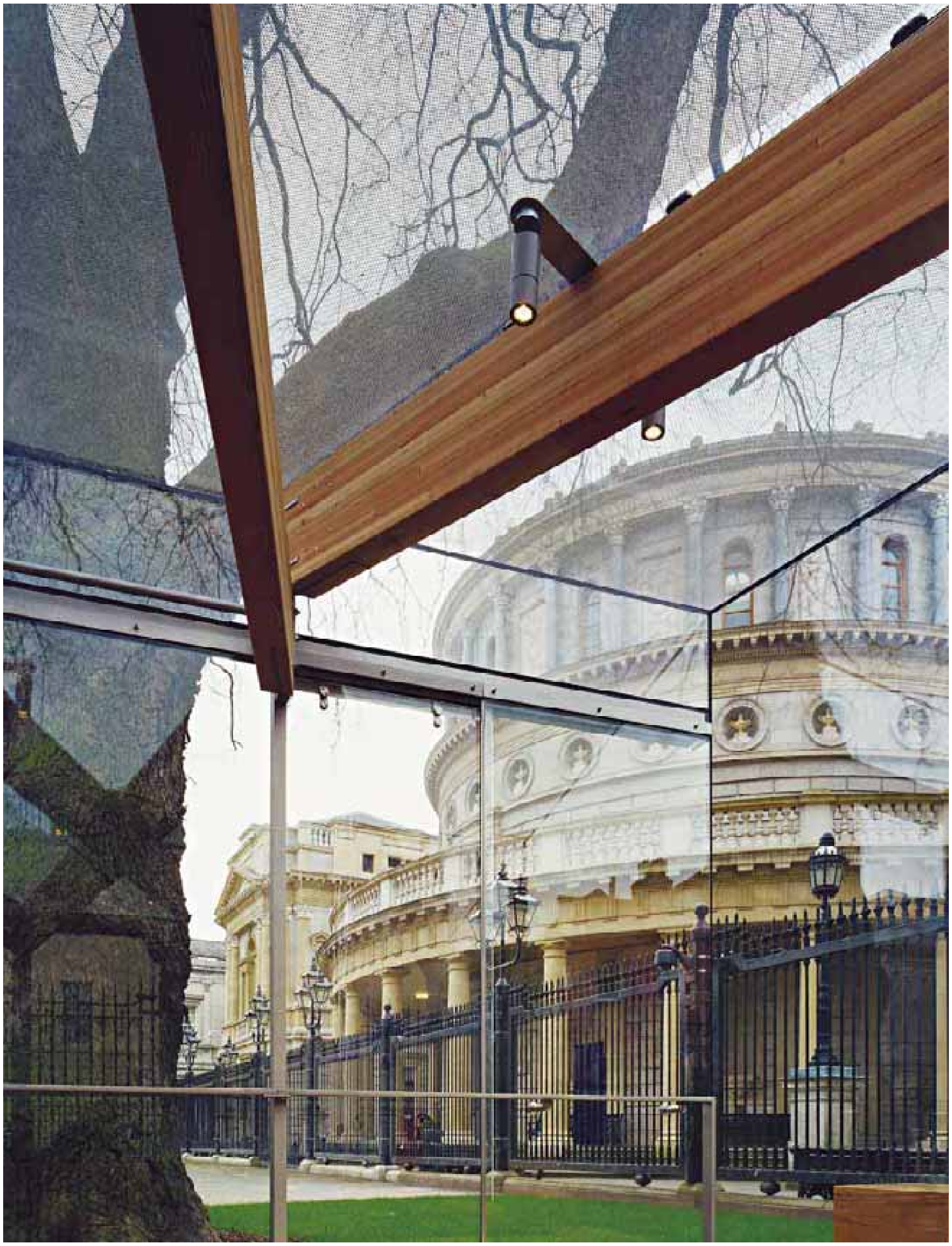
Times have changed. To reflect this, Ireland's Office of Public Works instituted an initiative to bring government buildings up-to-date. To this end, the young Dublin-based architecture firm Bucholz/McEvoy (with Paris-based RFR engineers) was recruited to respond to 21st-century security needs at Leinster House by undertaking a project that included a renovated vehicular entry and stone exit station, and a new "welcoming" pavilion.

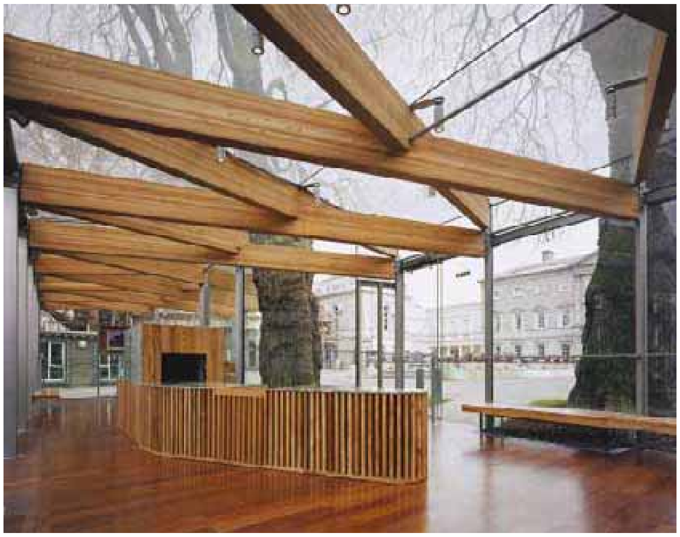
Rather than taking a fortresslike approach, the Office of Public Works called for the Leinster House Pavilion to be open and transparent, serving as a metaphor for the ideals of government conduct. "The installation is more about security through surveillance and having a panoptic view," says Merritt Bucholz. "There is nothing particularly

defensive about it." At the same time, the structure had to help control the entry of parliamentarians and visitors without disrupting two existing London plane trees in front of Leinster House or views of the historic building. Not least important, Bucholz recalled with a chuckle, the firm was told that the pavilion—which was conceived in anticipation of Ireland's presidency of the European Union, when heads of state would be regular visitors—had to "look good on CNN."

To accommodate the needs of the long-time guards, the pavilion's desk was designed first. Bucholz/McEvoy built a plywood mock-up and plopped it down in the grass to show the employees. The pavilion evolved around this central element, made from Irish marble and vertical slats of Irish oak. Conforming to the desk, the flow of foot traffic, the location of the plane trees, and other spatial constraints, the pavilion emerged as trapezoid in plan. Fabricated in Turin, Italy, and assembled on-site, its walls are made of white, heat-strengthened laminated glass. To optimize transparency, most of the structure is placed in the roof, with glue-laminated larch-wood "X" beams providing lateral restraint so that only slender stainless-steel columns were required. The roof's glazing, with heating wires incorporated into the PVB interlayer, uses silkscreen patterning to provide shading.

Leinster House Pavilion serves as a pleasing transitional space. Providing a bridge between the pedestrianism of the civilian world and the pomp of Leinster House, it at once defers to the mansion and surrounding buildings while making a statement of its own. ■





Snaking between the London plane trees, the Leinster House Pavilion shepherds visitors from the street into the forecourt of the democratic heart of the Republic of Ireland.

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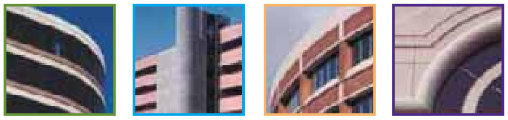

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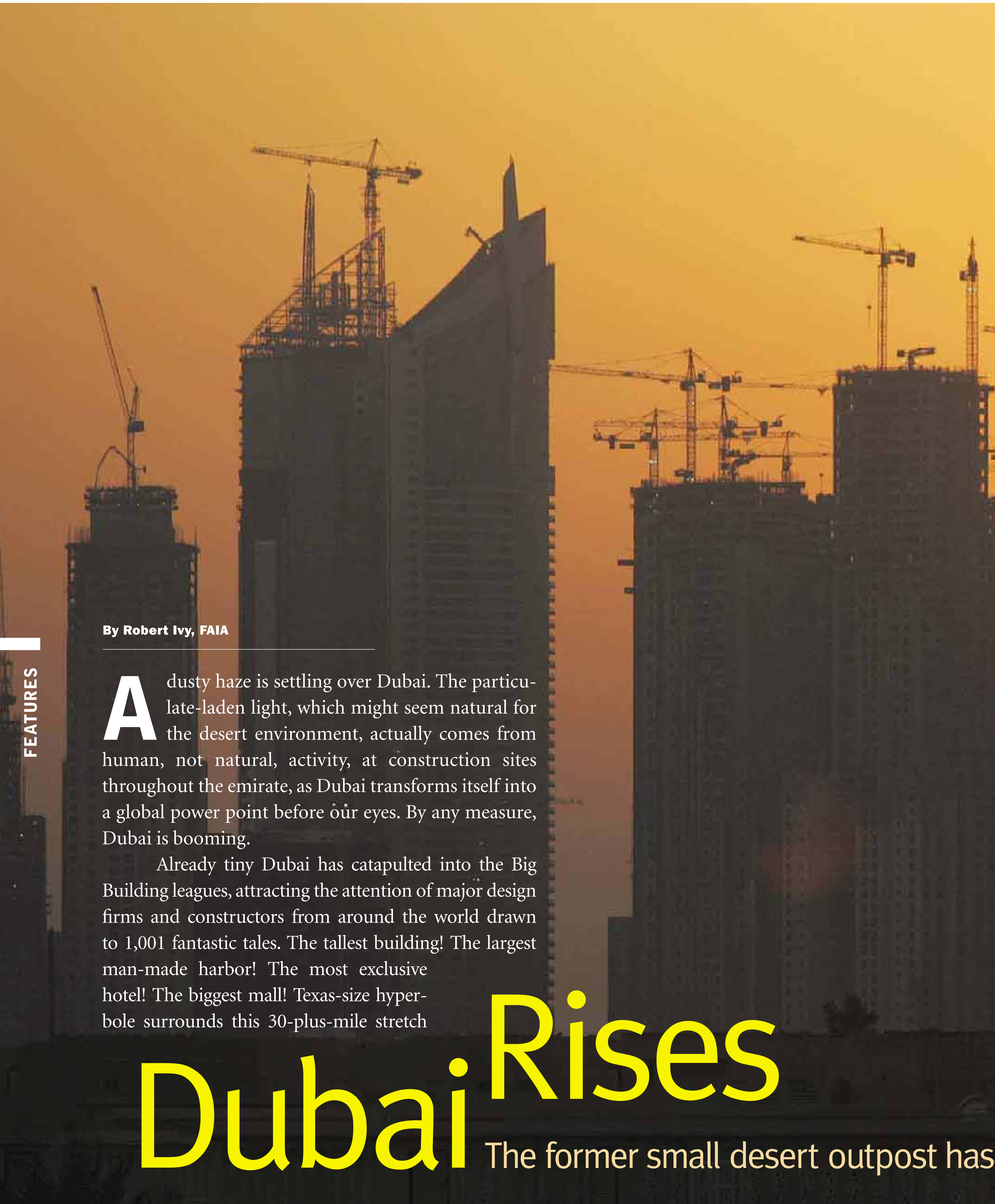


Dubai Rises

The former small desert outpost has

By Robert Ivy, FAIA

A dusty haze is settling over Dubai. The particulate-laden light, which might seem natural for the desert environment, actually comes from human, not natural, activity, at construction sites throughout the emirate, as Dubai transforms itself into a global power point before our eyes. By any measure, Dubai is booming.

Already tiny Dubai has catapulted into the Big Building leagues, attracting the attention of major design firms and constructors from around the world drawn to 1,001 fantastic tales. The tallest building! The largest man-made harbor! The most exclusive hotel! The biggest mall! Texas-size hyperbole surrounds this 30-plus-mile stretch

Dubai Marina (below), developed for 17 buildings, is going up at lightning speed. Sheik Zayed Road (above) is lined with growing rows of skyscrapers.

become one of the hottest construction markets in the world

along the Persian Gulf adjacent to Abu Dhabi, but amazingly, much of the hype is borne out by the facts. The building explosion deserves the Wild West analogy: Dubai is building big and fast.

The wealth, obviously, comes from oil. However, the powers that be, specifically the Crown Prince and the ruling family, have been transferring the economic base to other sources, particularly real estate, a situation abetted by adjustments to the land-ownership laws, including freehold property, a significant change announced in 2002. As a result of these measures and a growth in the commercial and industrial sectors, Dubai enjoyed 17 percent growth last year, a number that far exceeds China's. Other investors, including individuals and corporations from the Middle East, India, and Europe, are depositing dollars into the burgeoning economy. They are drawn to its Free Trade Zone status, its relative stability, its strategic location (the closest warm winter getaway from Europe), and to the dynamics of the moment. If you're a developer or an architect and you're not in Dubai right now, you're not a major player.

For architectural and planning companies dreaming of golden cities rising from the desert, several key developers control the majority of the action. The EMAAR group, a public joint-stock company that is listed on the Dubai financial market, first saw the light of day in 1997. Since that time, it has initiated increasingly ambitious projects, such as the Burj Dubai District, a major urban development of approximately 500 acres currently under construction. It will include the Burj Dubai Tower (billed as the world's tallest and designed by the Chicago office of Skidmore, Owings & Merrill), the world's largest mall (the Dubai Mall), a lake, a mixed-use historicist residential/light commercial area (called Old Town), parkland, a lake, and a business hub, among other features. No pipe dream—the cranes are already whirling, preparing the site, while the tower continues to rise. (RECORD intends to follow its development in subsequent articles.) Besides local practices, large foreign firms that have worked, or are busy, in Dubai include HOK, NBBJ, RMJM, Foster and Partners, Zaha Hadid, Arthur Erickson, Arizona-based Architekton, and others from Miami, Toronto, England, Spain, and India. Almost 300 high-rises are now under construc-

IF YOU'RE NOT IN DUBAI RIGHT NOW, YOU'RE NOT A MAJOR PLAYER.

IMAGES: © ARABIAN EYE (ABOVE LEFT AND PRIOR SPREAD); COURTESY GRUZEN SAMTON ARCHITECTS (OPPOSITE, TOP THREE);© ROBERT IVY (THIS SPREAD, BOTTOM FOUR)

Another city rises on the waterfront

Images of Dubai's skyline, with its growing row of ambitious, often otherworldly high-rises, have begun to capture the world's imagination. But located about 30 miles west of this cluster, a new development along Dubai's coastline could be even more astonishing.

The mixed-used project, called Dubai Waterfront (opposite, top three), is essentially a new city. It is being master planned by New York–based Gruzen Samton Architects and developed by state-run Nakheel developers. The area, whose total size has not been released, will feature its own airport, and more than 150 communities, with a population of about 700,000. This includes ascending rows of high-rise offices and apartments, a large park, plazas, mosques, schools, boulevards, and a canal. The city's focal point will be a downtown core with its own inner and outer harbors, called Madinat Al Arab. This zone will be highlighted by a skyscraper by Pei Partnership (see main story). "We have almost complete freedom," says Gruzen Samton principal Jordan Gruzen, FAIA.

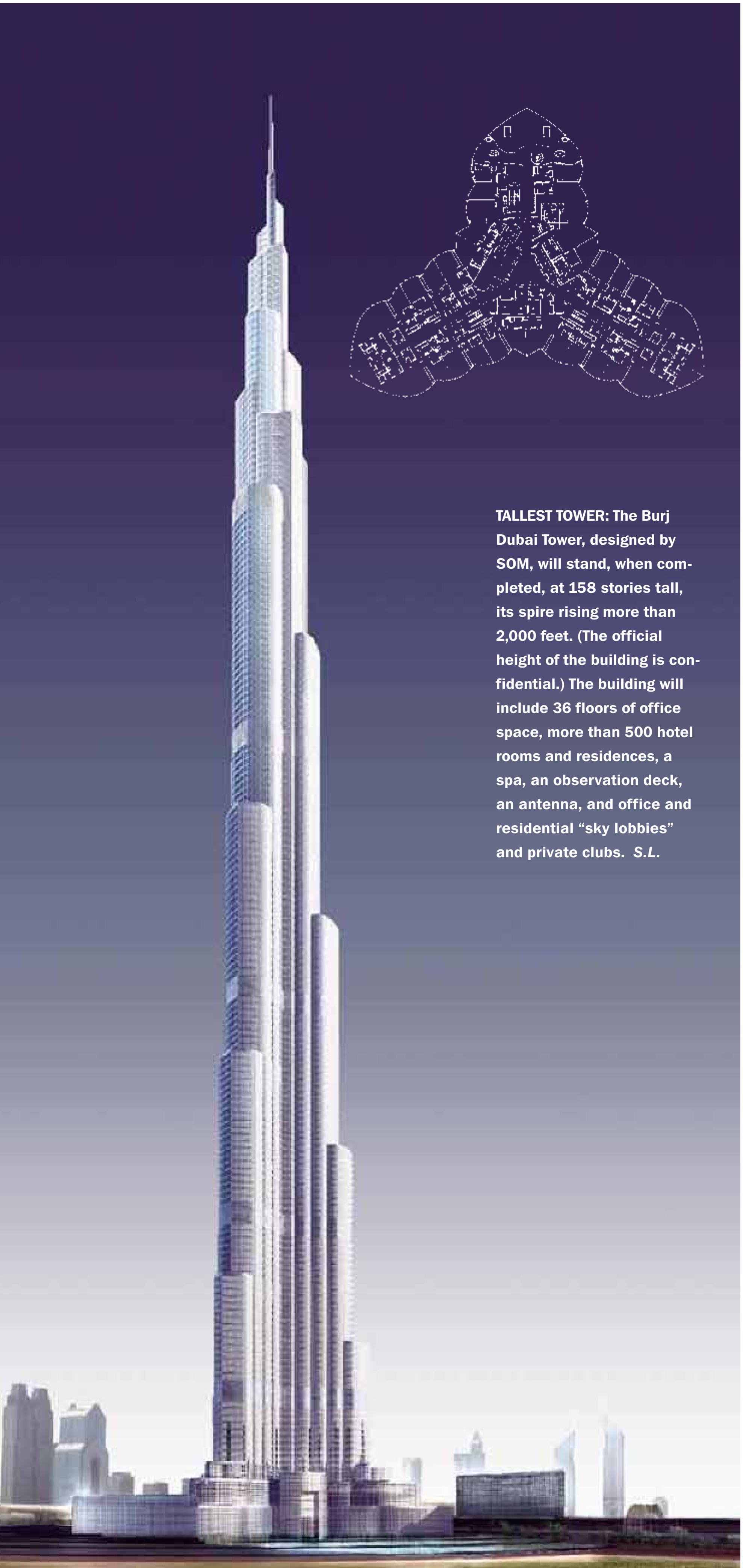
The project, first conceived a year ago, began moving forward around last July, he says, when about $1.4 billion in property was sold for phase one of Madinat Al Arab. Construction should begin by the end of this year. The design vision for the new city is very contemporary, says firm architect Scott Oliver. He notes that though much of the region relies on historical "simulacrum," the firm was not asked "to recreate Georgia."

Another major component of the development is an astounding (some might say outlandish) development on landfill in the Persian Gulf called Palm Jebel Ali (two similar communities, Palm Jumeira and Palm Deira, are being developed nearby). It will be shaped like a giant palm tree. Palm Jebel Ali, which Gruzen Samton is helping to master plan, will be about 4.7 miles in diameter at its widest point, containing boulevards, greenways, houses, hotels, apartments, retail, and marinas. Giant curving rows, or "fronds," of house-lined streets will radiate from a 1.5-mile-long central spine, or "trunk." Commercial buildings and hotels will be located on the edges, or "crescent." The seabed has already been dredged for the project, and land has been delivered onto the island over the past two years. Another landfill development, being planned by Nakheel's designers, is called The World. It will allow investors to purchase various islands shaped like countries.

Work on Dubai Waterfront is still being master planned. Completion will be in about 10 years, although Samton notes, "These things have a tendency to start growing in unpredictable ways." *Sam Lubell*

Snapshots from the author's recent trip to Dubai include (left to right): New development on Dubai Creek; Sheik Zayed Road; the Dubai Marina; cranes stretching as far as the eye can see.

For more of the author's travel photographs, go to www.archrecord.com.



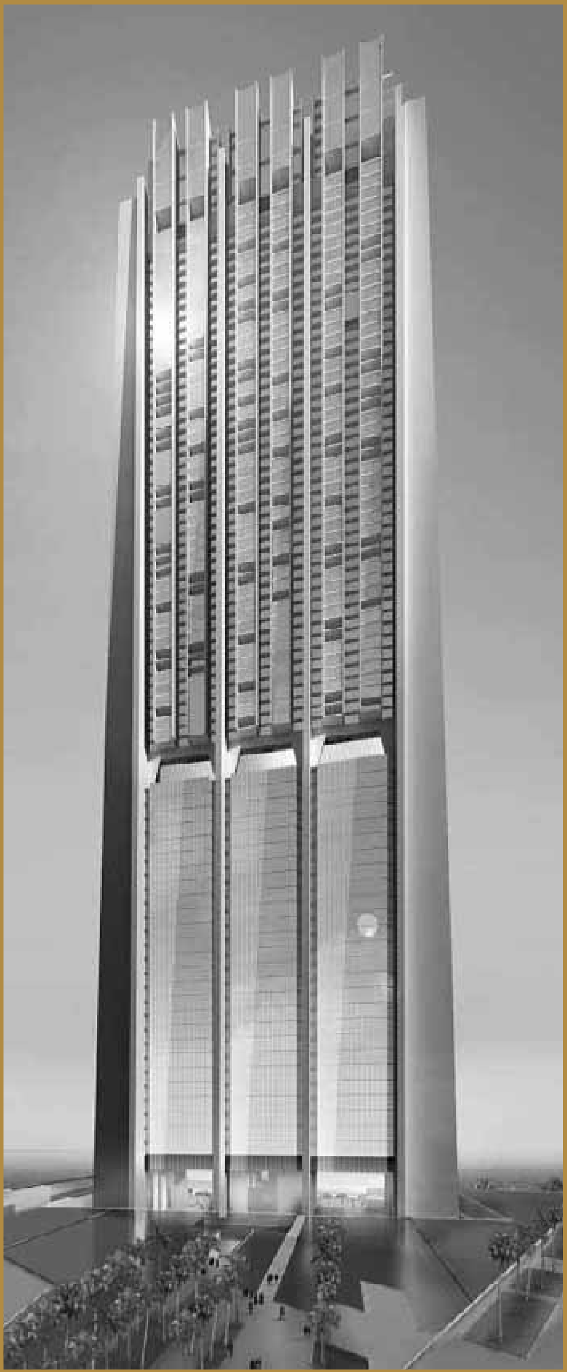
TALLEST TOWER: The Burj Dubai Tower, designed by SOM, will stand, when completed, at 158 stories tall, its spire rising more than 2,000 feet. (The official height of the building is confidential.) The building will include 36 floors of office space, more than 500 hotel rooms and residences, a spa, an observation deck, an antenna, and office and residential "sky lobbies" and private clubs. *S.L.*

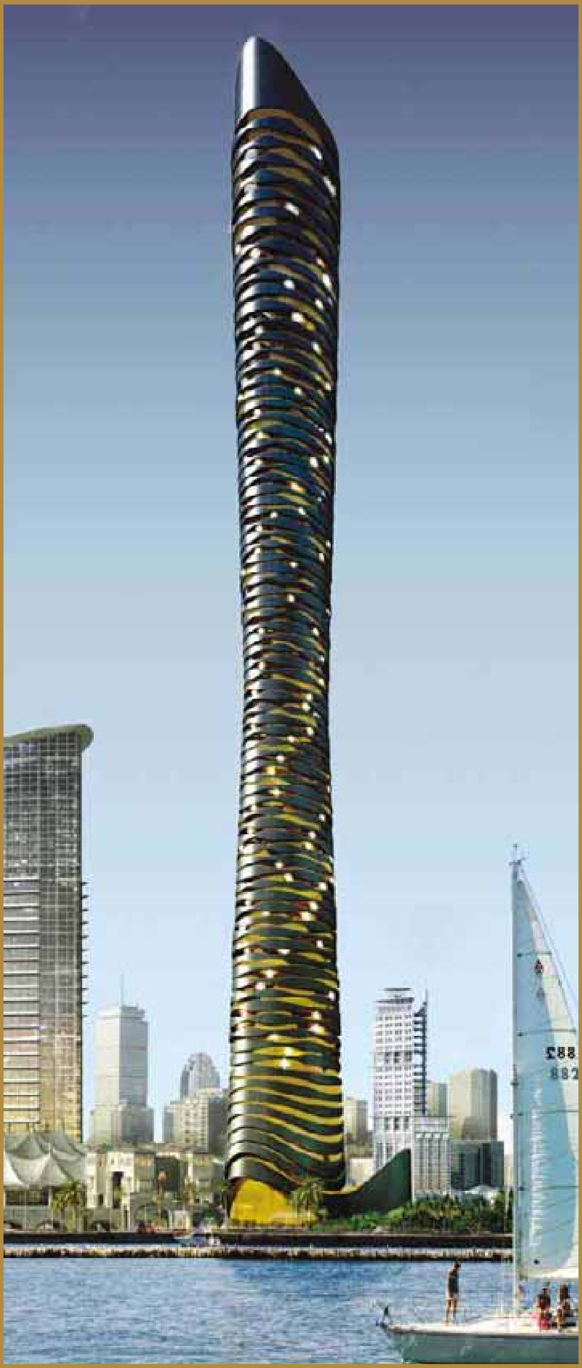
Projects on the horizon

Foster and Partners

Norman Foster has designed a landmark tower in Dubai scheduled for completion in early 2008. One Central Park is located on a corner site in the Dubai International Finance Centre, a gigantic capital market with several new buildings. The 1,076-foot, 80-floor tower will include a mix of 25 floors of office space, with 520 apartments on 47 floors above. These are crowned by 12 penthouses representing what Foster describes as "the highest apartment in the world."

The building sits on a landscaped plinth and features a quadruple-height foyer. Like the Swiss Re Tower in London, its structure is clearly expressed, this time through four tapering, A-frame concrete fins buttressed at the east and west elevations. The 25 floors of column-free offices are held within from the fins, beneath the sky lobby and residential floors above. *Lucy Bullivant*





DOSarchitects

DOSarchitects, a London-based firm established two years ago, is well on its way with a commission for a 93-story tower in Dubai. The firm has won a competition, held by Dubai-based Kordahi developments, to build the Infiniti Tower in the Dubai Marina development, where currently 17 towers are under construction.

Firm director Tavis Wright intends to bring sustainable design to the desertlike climate, an idea that seems largely ignored in Dubai construction. The tower's solar panels will attach to the exterior cladding and will rotate as the sun moves across the sky, making one rotation per day. The exterior's curvaceous, modulated-aluminum cladding, which evokes local sand dunes, will hide the building's structure.

Construction will start in November 2006, with an opening in early 2009. The mixed-use program includes five floors for the lobby, retail, and gym space, with 10 floors of parking, and 78 floors of residences. *Sarah Cox*

tion, according to Emporis Research.

Nakheel, a real estate company dealing in freehold property, bears responsibility for additional wonderments, including the fantastically shaped islands in the Gulf—The Palms—which are near completion. An equally ambitious new canal, intended to reach 75 miles into the heart of the country, drew the American architectural firm Gruzen Samton to the emirate, ultimately engaging them in the planning for an entirely new town called Dubai Waterfront. Jordan Gruzen, FAIA, characterizes the work, which includes a dredged canal system, transit, and parks that are overlaid with a series of residential plots, as "amazing … the kind of idealized project you might give to a senior class for a semester." His company's working relationship has broadened to Nakheel's second "palm" development, Palm Jebel Ali.

New York's Pei Partnership shares Gruzen's experience in Dubai—both have seen initial discussions morph into other, larger work. According to partner D.D. Pei, his firm's primary explorations with a developer eventually led to a commission for yet another mega-tower, currently located at the critical head of the harbor in Dubai Waterfront, a beacon from the water. How tall is tall? Pei says that plans for this tower initially began at 650 meters (2,132 feet) and have since gone higher. By comparison, remember that New York's unbuilt Freedom Tower, intended to be the world's tallest, has been pegged at 1,776 feet. While Pei's project remains temporarily on hold, he is optimistic that it will start soon.

The SOM and Pei towers, on completion, will lead a cavalcade of other tall buildings, most of which top out between 40 and 50 stories. The surreal spirit of the place seems magnified by perspective, with slice after vertical slice of hotels and condos lining up along the primary strip, Sheikh Zayed Road, their soaring flanks painted in the pastel Gulf light. The entire assemblage is punctuated by the whirs and clicks and droning engines of building taking place—a three-dimensional, atonal composition.

Reality in Dubai can prove even more bizarre than photographs of it. Traffic along the major arterial rivals that of Los Angeles or Phoenix, since every automobile essentially moves along a single vector, from the embayment at the heart of the older city to Abu Dhabi. Along the way, with a few jogs to the seaside or down the occasional cross street, the visitor encounters developments such as Internet City, a free trade zone that houses such familiar names as Oracle and Microsoft; or Media City, home to 850 companies and 5,000 workers. Add the financial center and the future "Dubailand," a $5 billion resort area, and you get something of the picture: Dubai is where Palm Springs meets Chicago.

REALITY IN DUBAI CAN PROVE MORE BIZARRE THAN PHOTOGRAPHS OF IT.

Questions abound for the visitor, such as who are the residents, exactly, and who is building all of these projects? Actually, few native citizens perform manual labor, relying on an immense influx of international workers, who flock to the emirates from Sri Lanka, the Philippines, Indonesia, and Malaysia for the work. With the extreme volume of major projects under construction, and others on the way, this cheap labor could become a destabilizing factor in the future.

The inevitable question that hovers in the air, coating the high-rises like the prevailing construction dust, is whether this bubble could be made of concrete. Jordan Gruzen has no crystal ball, but he has increasing confidence. Instead of sandcastles, he sees solid growth. "Each day, we see more signs of strength," he says, as the international dollars flow in and the new towns take shape. What the character of such a state will become, conceived in such white-hot heat, remains to be determined after the dust has settled. ■

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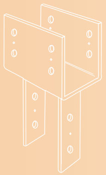

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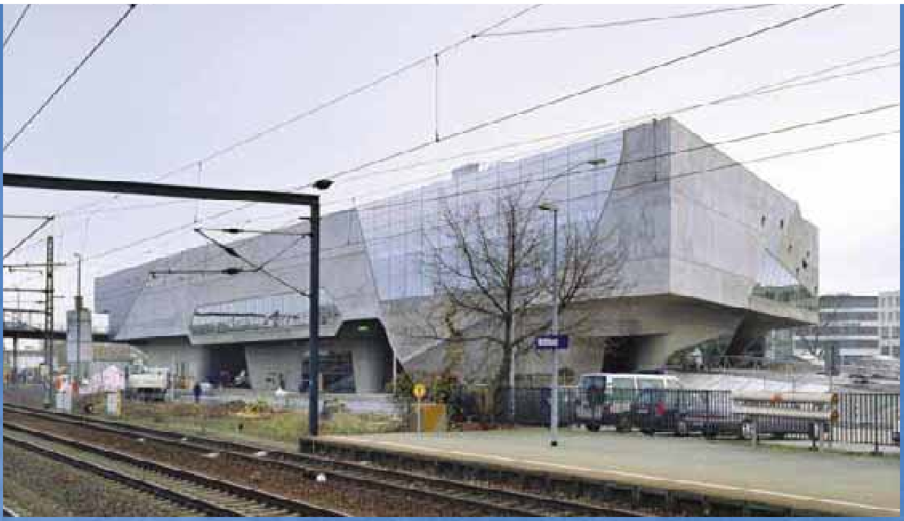
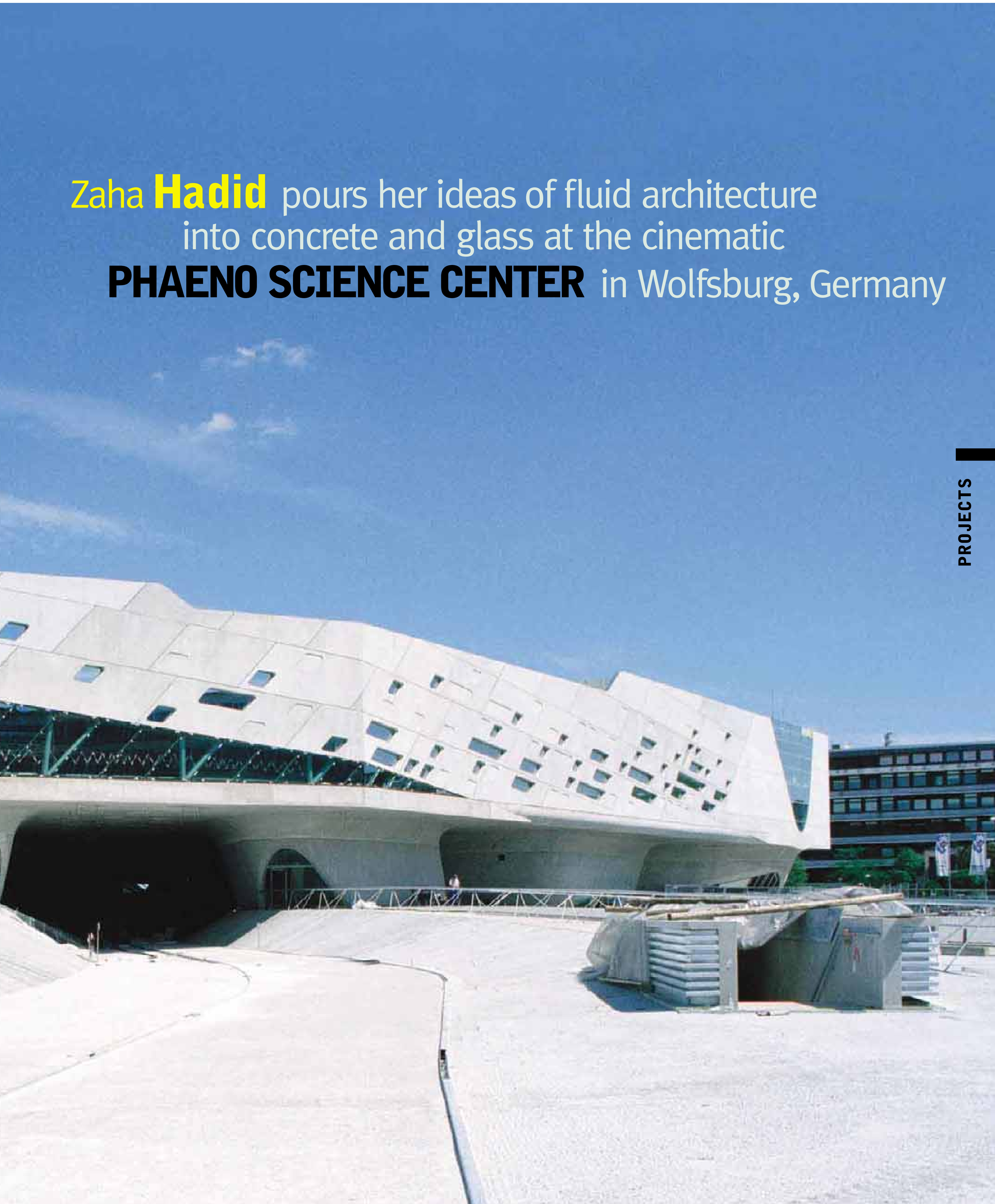
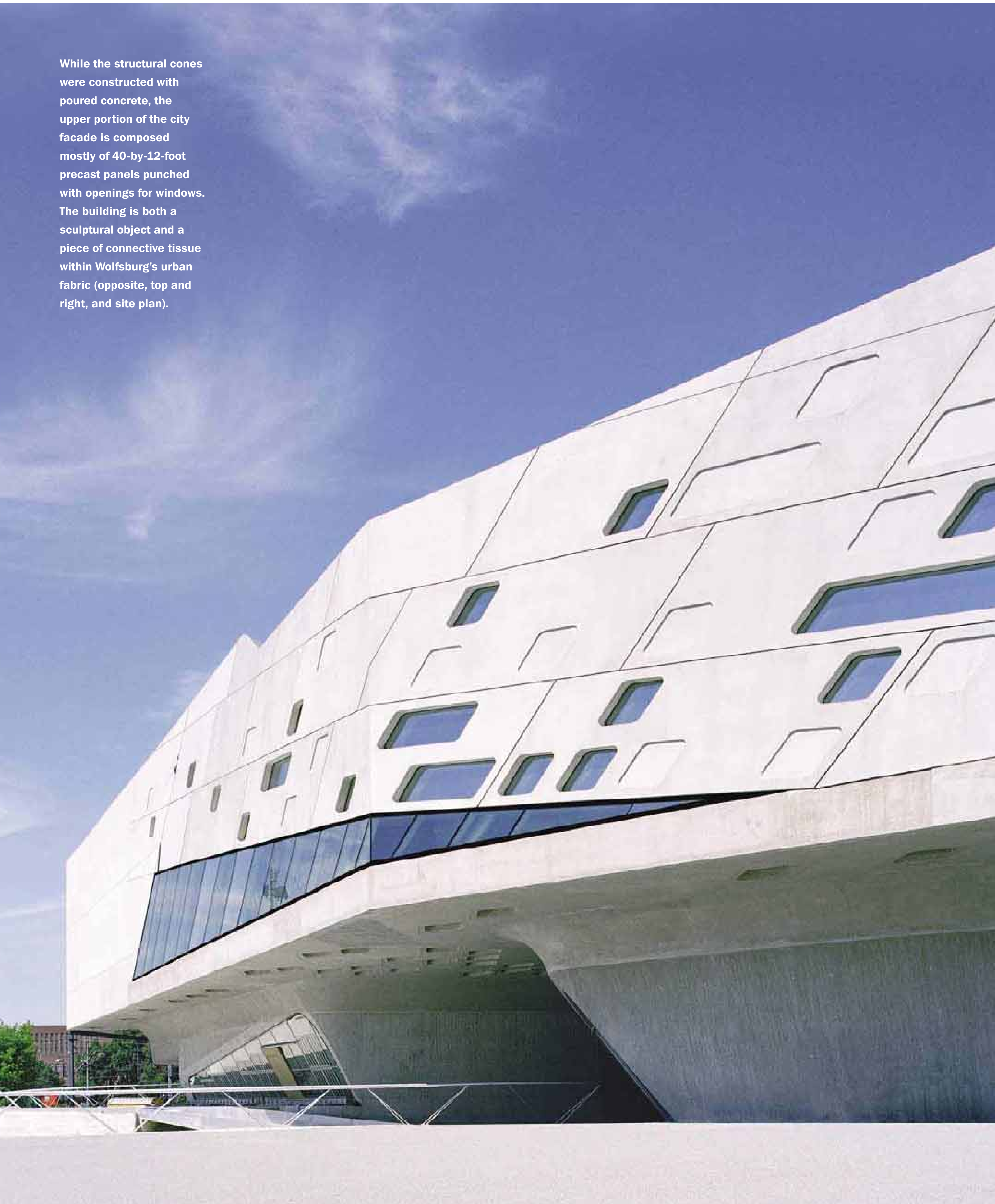


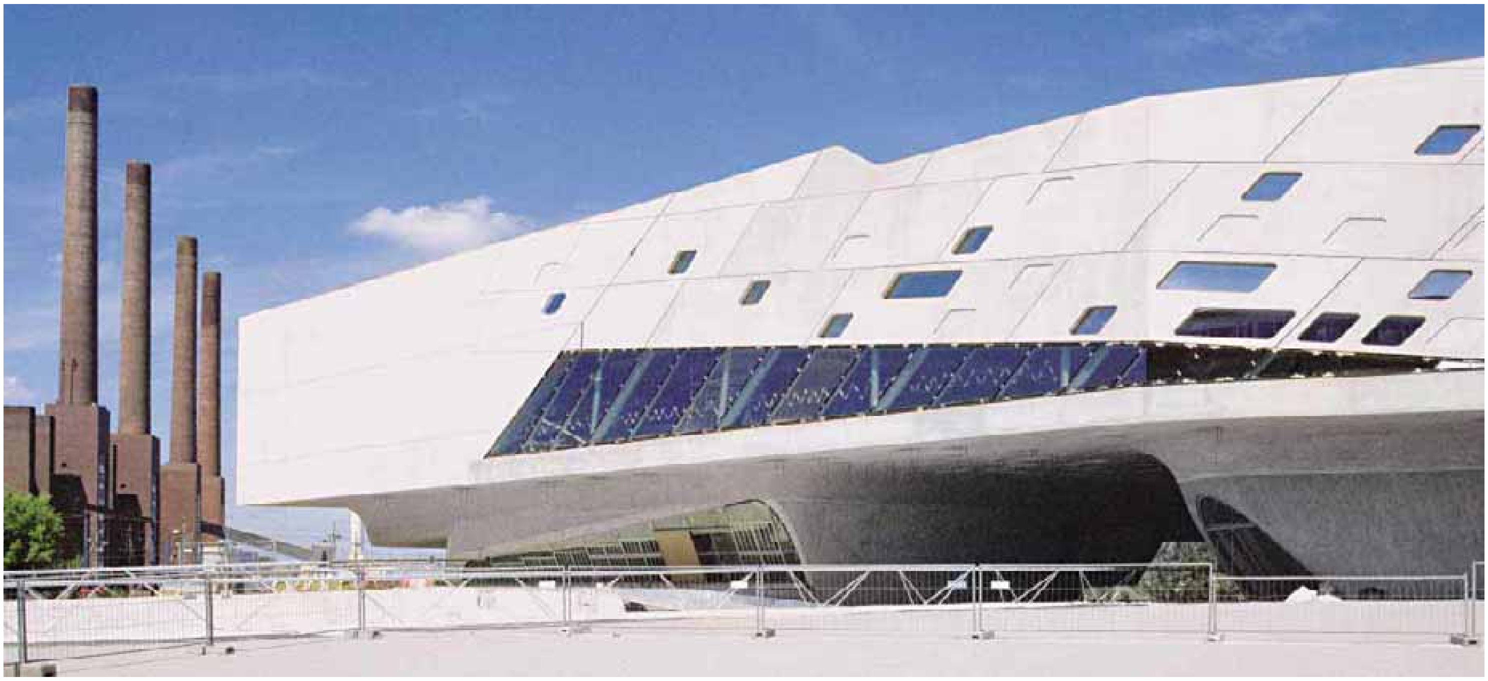
With Volkswagen's 1930s factory in the background, phaeno floats above a plaza that connects the city with its industrial zone. On the north, it faces train tracks (right) and the VW complex.

Zaha **Hadid** pours her ideas of fluid architecture into concrete and glass at the cinematic **PHAENO SCIENCE CENTER** in Wolfsburg, Germany

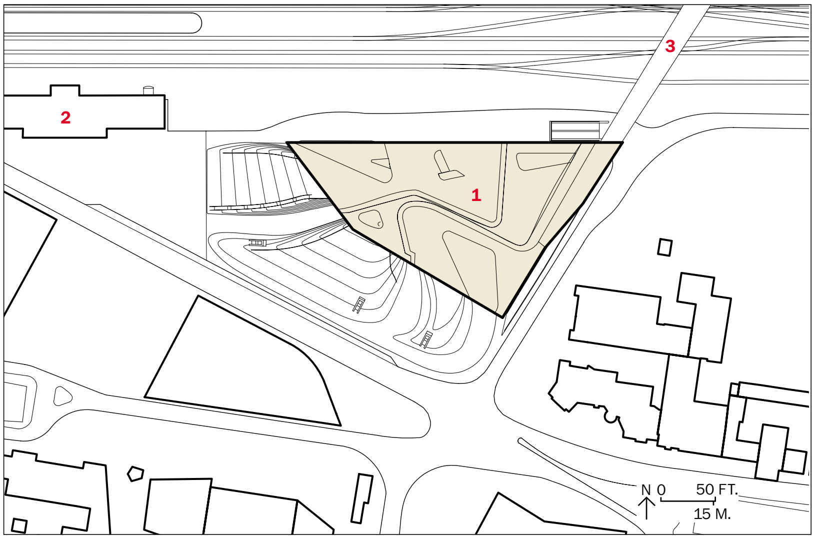




While the structural cones were constructed with poured concrete, the upper portion of the city facade is composed mostly of 40-by-12-foot precast panels punched with openings for windows. The building is both a sculptural object and a piece of connective tissue within Wolfsburg's urban fabric (opposite, top and right, and site plan).



1. *phaeno Center*
2. *Train station*
3. *Bridge to Autostadt*



By Clifford A. Pearson

Five years ago, a town built as a showcase of 20th-century industrial production hired Zaha Hadid to lead it into the 21st century. The selection seemed inspired. Who better to create an icon of the information age than the high priestess of avant-garde architecture herself? The choice—after an international competition that included Enric Miralles/Benedetta Tagliabue from Barcelona, Barkow Leibinger from Berlin, and Auer + Weber from Stuttgart as finalists—had the right sense of daring, since Hadid in 2000 was still known mostly for her seductive drawings and had completed few buildings. Fast forward to November 2005 and the opening of the phaeno Science Center in Wolfsburg, Germany: Hadid, who won the Pritzker Prize the year before, was riding a wave of acclaim after the completion of her Central Building at BMW's factory in Leipzig [RECORD, August 2005, page 82], the Ordrupgaard Museum Extension in Copenhagen, and the Hotel Puerta América in Madrid, where she designed a floor of guest rooms whose curvaceous, milky white surfaces seem pulled from some architectural dreamscape [RECORD, September 2005, page 96]. So does phaeno live up to its hype as one of the most anticipated projects of the year?

It does, although it is flawed.

First, some history on its context. Established in 1938 as a home for the Volkswagen Works and the people employed at the giant car factory, Wolfsburg has been pretty much a company town ever since. In the 1960s, the city added a layer of cultural institutions with such buildings as a library/cultural center by Alvar Aalto and a theater by Hans Scharoun. But it remained largely dependent on Volkswagen as its economic engine. Ironically, Volkswagen itself recognized the need to diversify and built a high-tech theme park devoted to the joys of automobile ownership adja-

---

Project: *phaeno Science Center, Wolfsburg, Germany*

Architect: *Zaha Hadid Architects—Zaha Hadid, Patrik Schumacher, Christos Passas, Sara Klomps, Gernot Finselbach, Helmut Kinzler, David Salazar, Janne Westermann, Chris Dopheide, Stanley Lau, Eddie Can, Yoash Oster, Jan Hubener, Caroline Voet, Silvia Forlati, Guenter Barczik, Lida Charsouli, Marcus Liermann, Kenneth Bostock, Enrico, Kleinke, Constanze Stinnes, Liam Young, Chris Dopheide, Barbara Kuit, Niki Neerpasch, Markus Dochantschi*

Associate architect: *Mayer Baehrle Architects*

Engineers: *Adams Kara Taylor, Tokarz Freirichs Leipold (structural); NEK, Buro Happold (services)*

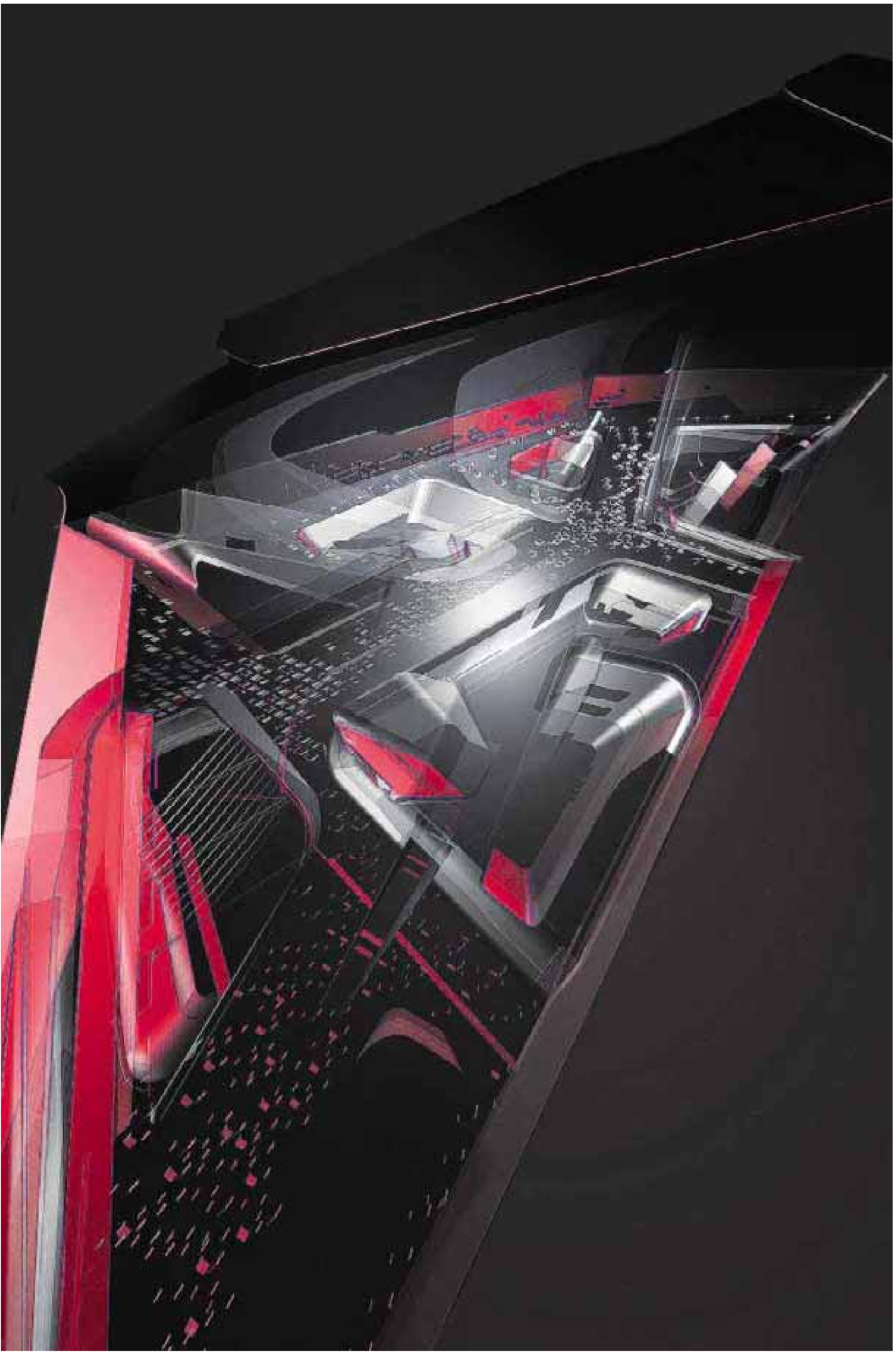
Lighting designers: *Fahlke & Dettmer; Office for Visual Interaction*

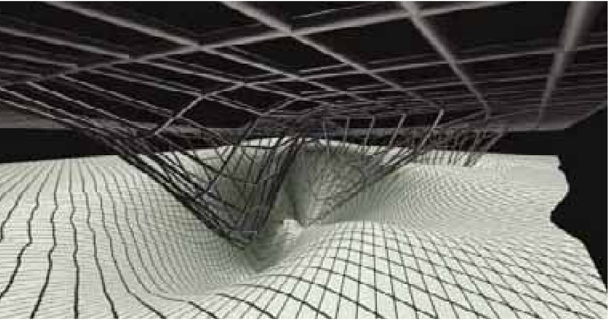
Construction managers: *Assman GmbH; Dr. W. Swoboda*

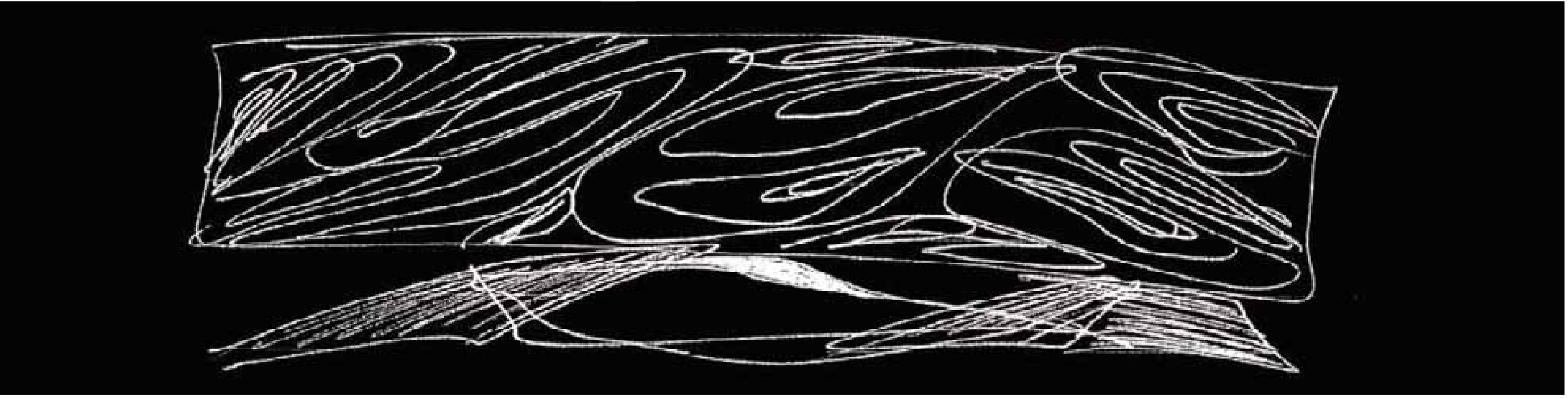
PHOTOGRAPHY: © KLEMENS ORTMEYER, EXCEPT AS NOTED;
ROLAND HALBE (PREVIOUS SPREAD, INSET)

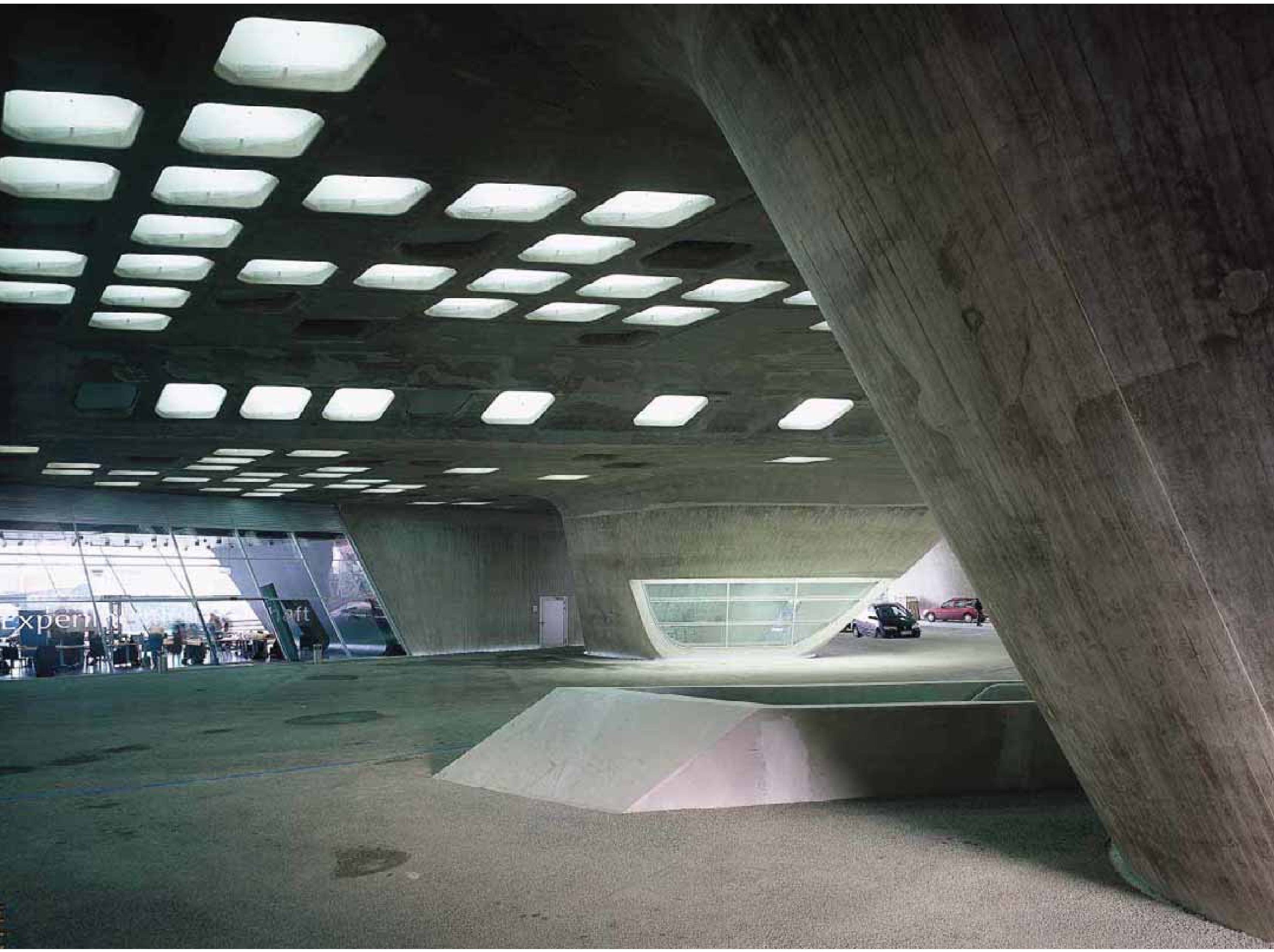
A winning streak begins

From 1999 to 2001, Zaha Hadid won seven international design competitions, transforming a boutique office of 15 people into what it is today: a major firm with 120 employees. The streak began with the National Center of Contemporary Arts (MAXXI) in Rome and the Bergisel Ski Jump in Innsbruch, then continued with phaeno; a ferry terminal in Salerno, Italy; the Placa de las Arts in Barcelona; a master plan in Singapore; and a museum extension in Copenhagen. By raising her building one story off the ground (sketch, bottom) and creating an undulating plaza underneath the building (below), Hadid added an unexpected element to the program. The jury was impressed. Although fine-tuned over time, the design—with its 10 structural "cones" that contain programmed spaces such as a bar and a gift shop (right)—remained remarkably intact during the course of the project.









To prevent the covered plaza from being too dark, the architects designed a "light carpet" floating above it. Functional elements such as a bar and a shop reside in the structural cones.

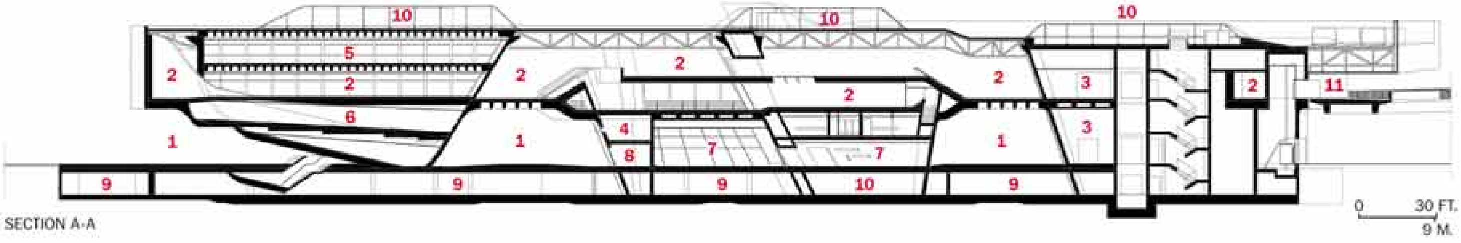
PHOTOGRAPHY: © ROLAND HALBE

cent to its factory complex. Called Autostadt and designed mostly by Gunter Henn in High Modern style with crisply detailed glass-and-steel buildings, a few swoopy World's Fair-like pavilions, and lush landscaping [RECORD, November 2000, page 148], the park opened in 2000 to coincide with the Hanover World Expo just 40 miles to the west. Today, two million people visit Autostadt's car museum, corporate-brand pavilions, restaurants, and shops each year.

At the same time Autostadt was under construction, Wolfgang Guthardt, the head of Wolfsburg's department of culture, schools, and sport, proposed building a hands-on science museum to further broaden the city's range of attractions. Guthardt championed what became phaeno, helping to develop the program and now serving as the director and chairman of the phaeno Foundation. (The Greek word *phaeno*—the root of the English *phenomenon*—means "to cast light on" or "discover.") "This is a practical town, not a university town," states Guthardt. "So we wanted to create a hands-on place where everyone, not just kids, could discover things."

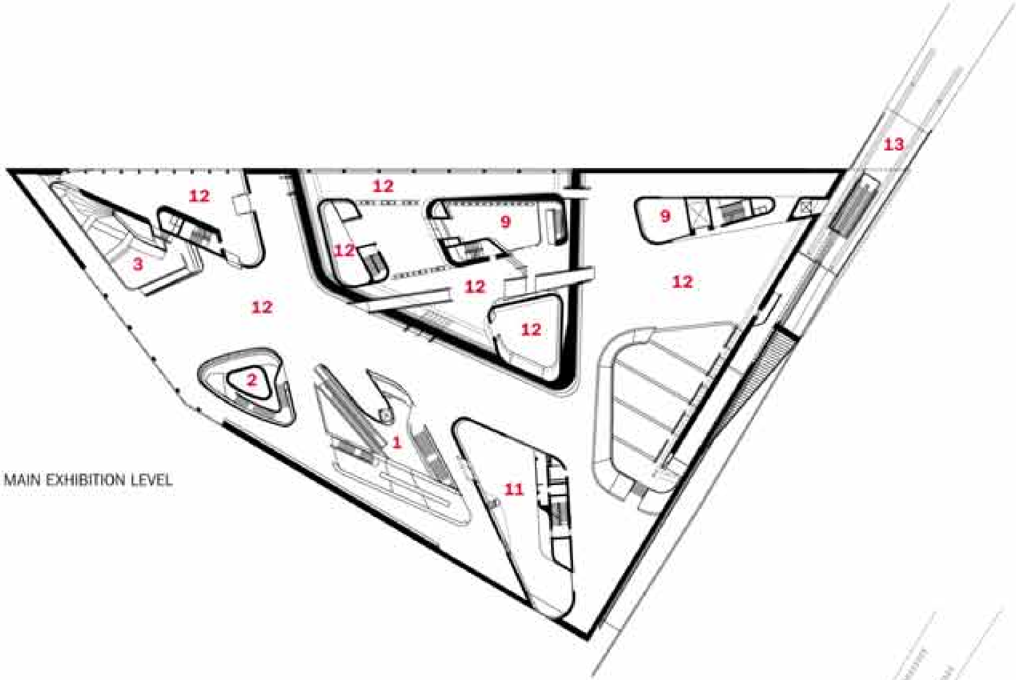
The phaeno site was a leftover triangle strategically located adjacent to the railroad station and between the city proper and Volkswagen's sprawling factory and theme park. With the reunification of Germany in 1989, Wolfsburg's rail traffic revived and its station became a stop for high-speed trains to Berlin, 100 miles east. Hadid's design for the 130,000-square-foot science museum boldly responds to its site, engaging Autostadt while also connecting the city's commercial and residential core to the industrial sector on the north. The city's original plan placed living and manufacturing in discrete zones, separated by the Mittelland Canal; Hadid's building helps subvert that division. And by pushing her museum up close to the canal, she initiated an intriguing dialogue between her brand of baroque Modernism and the more romantic, but equally over-the-top Modernism of Autostadt. Both projects unfold as a series of cinematic moments and relate to each other as the films of two directors might (say, Stanley Kubrick's phaeno and

"THE IDEA WAS TO OCCUPY STRUCTURE," SAYS HADID OF THE SPACES IN THE CONES. "STRUCTURE BECOMES PROGRAM."

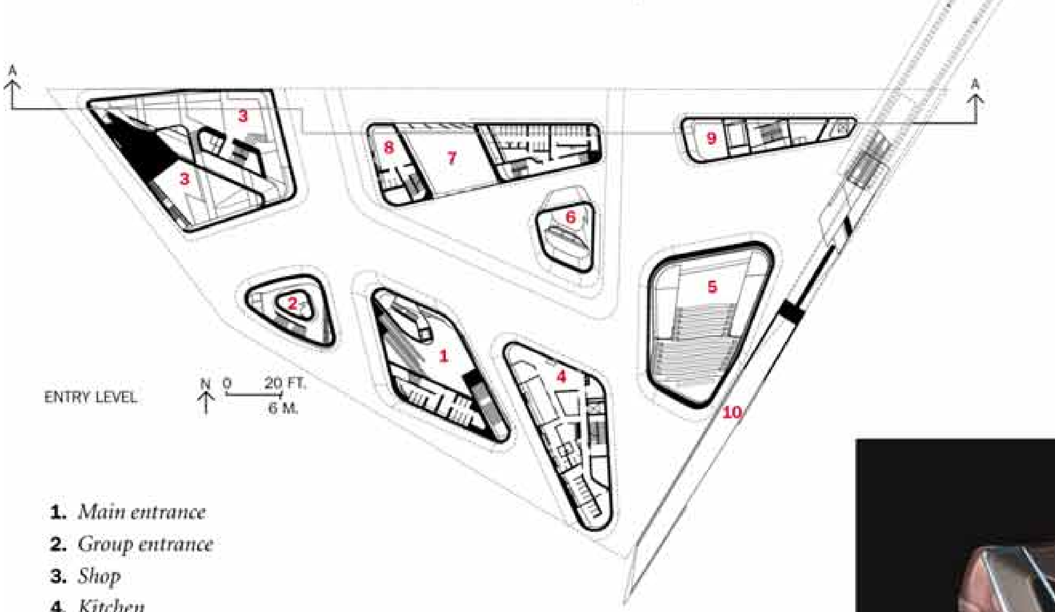


SECTION A-A

1. *Plaza*
2. *Exhibition*
3. *Laboratory*
4. *Staff*
5. *Administration*
6. *Shop*
7. *Event space*
8. *Workshop*
9. *Parking*
10. *Mechanical*
11. *Bridge to Autostadt*



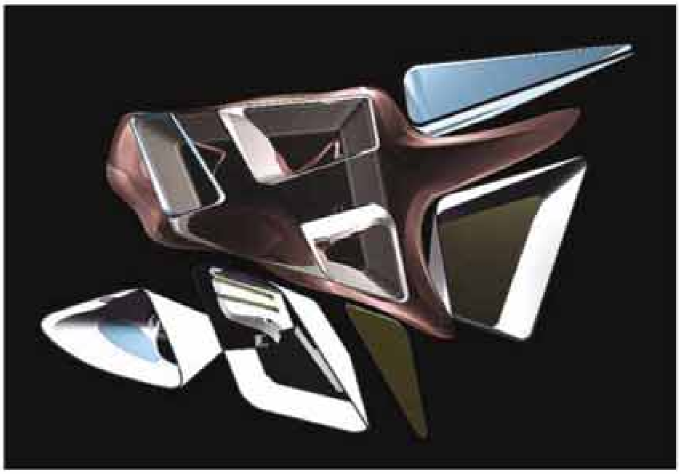
MAIN EXHIBITION LEVEL



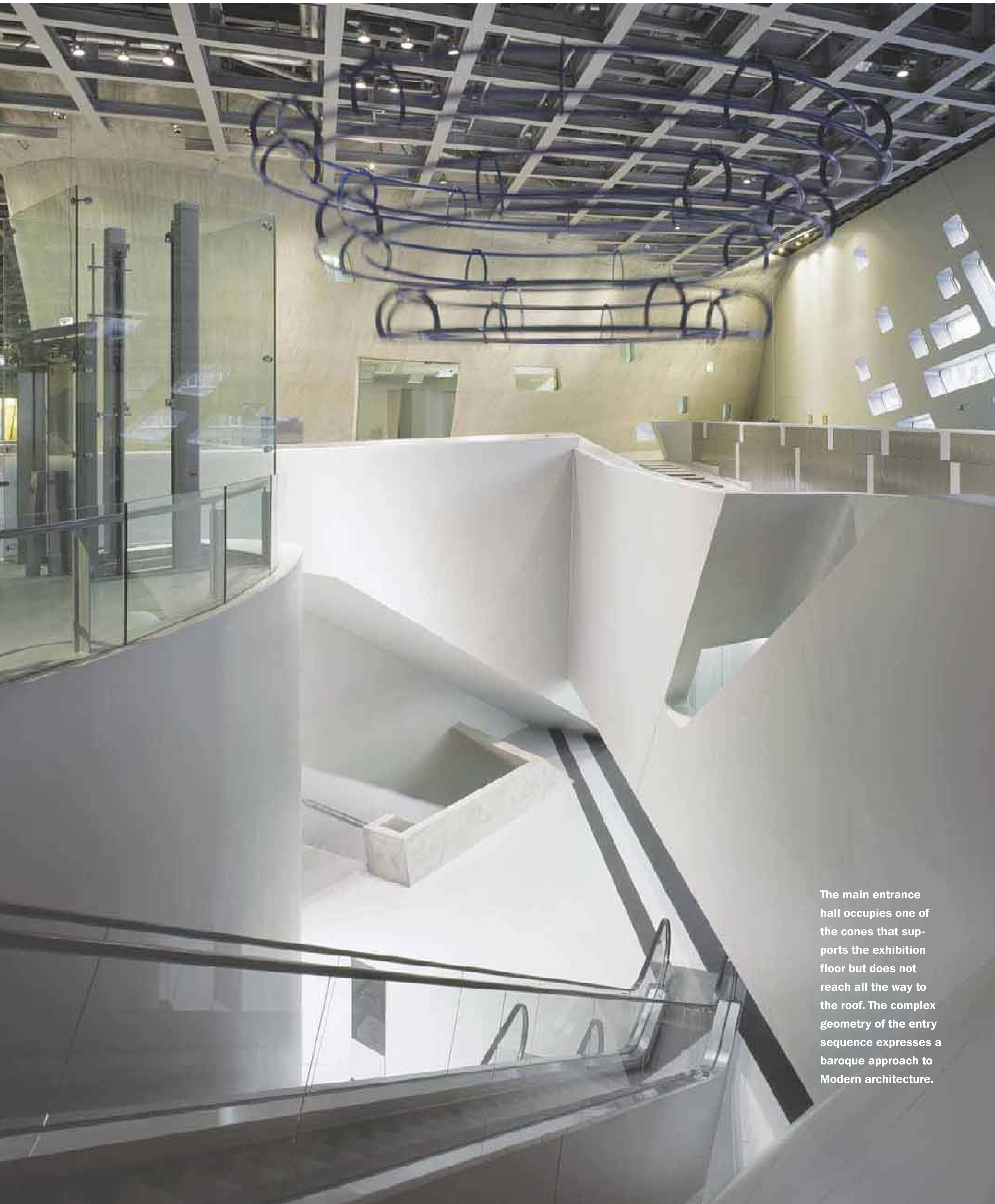
ENTRY LEVEL

1. *Main entrance*
2. *Group entrance*
3. *Shop*
4. *Kitchen*
5. *Auditorium*
6. *Coffee bar*
7. *Event space*
8. *Staff*
9. *Laboratory*
10. *Ramp to bridge*
11. *Restaurant*
12. *Exhibition*
13. *Bridge to Autostadt*

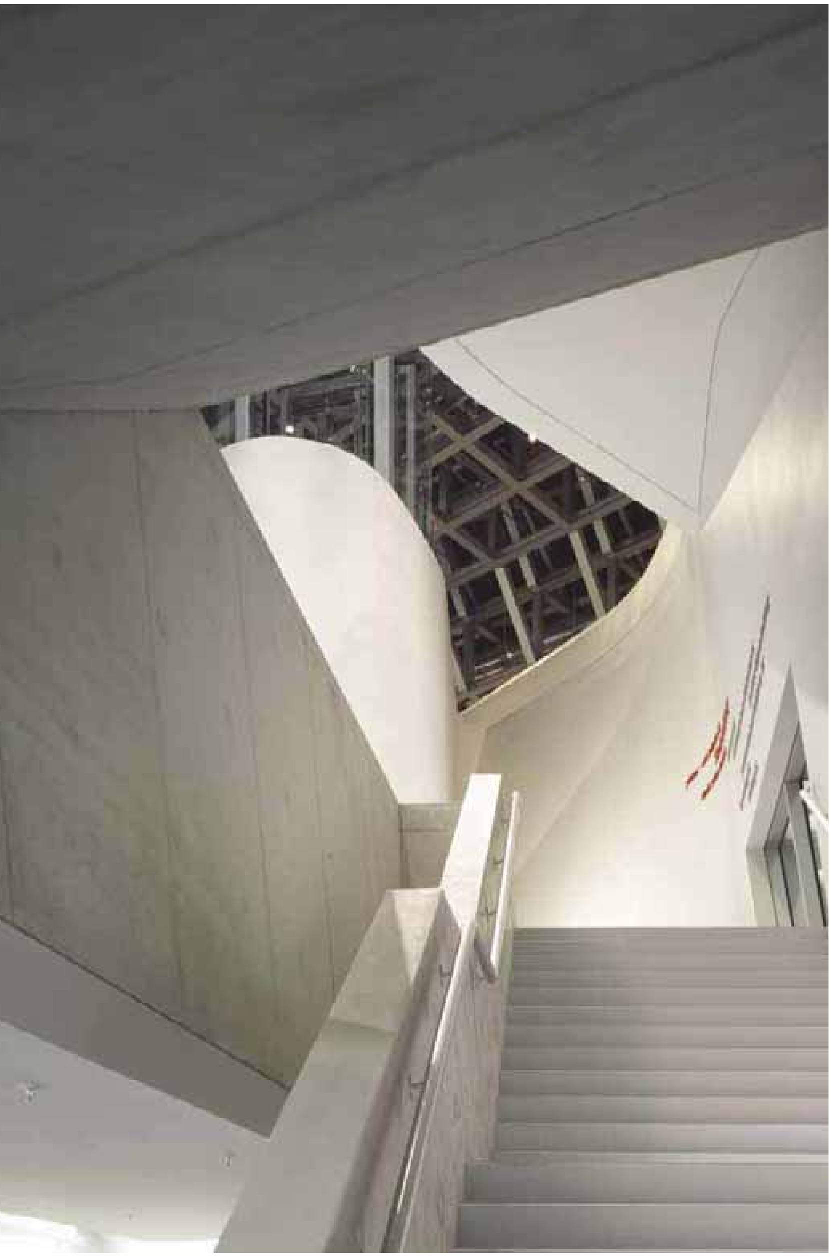
As envisioned in a rendering (below), the cones create an artificial topography around and through which visitors walk as they move from one part of the museum to another (floor plans, left).

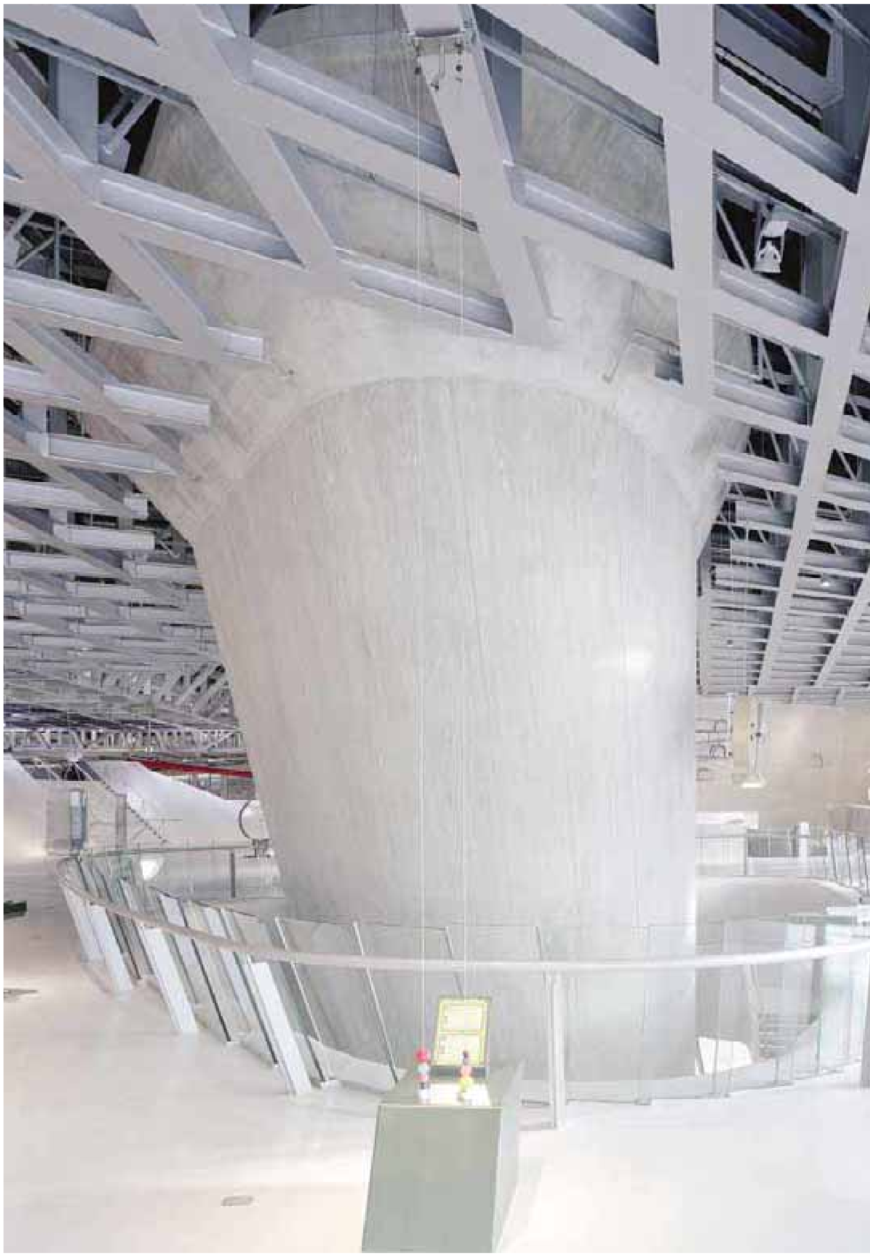


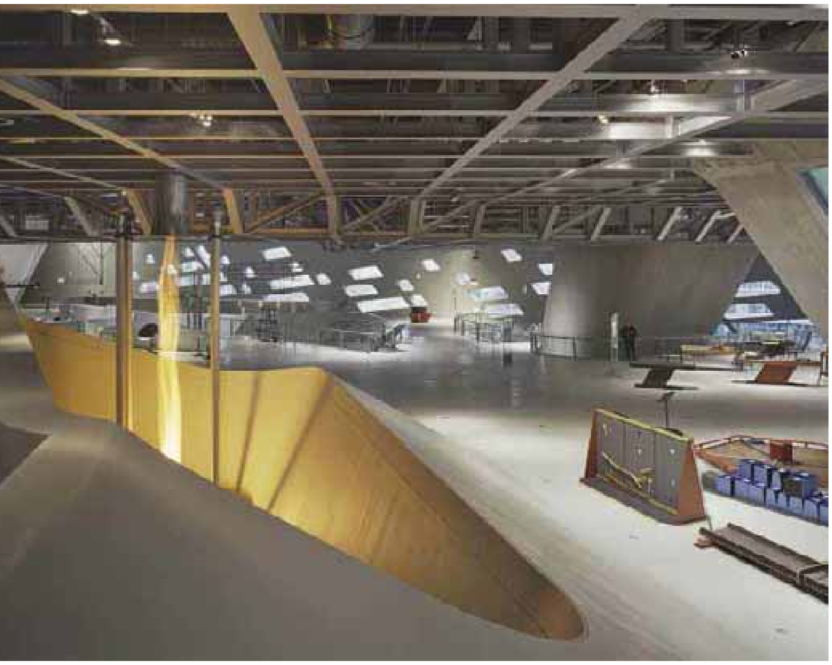
PHOTOGRAPHY: © ROLAND HALBE (OPPOSITE)



The main entrance hall occupies one of the cones that supports the exhibition floor but does not reach all the way to the roof. The complex geometry of the entry sequence expresses a baroque approach to Modern architecture.







About 250 "experimental stations" occupy the open exhibition space (left). Five of the 10 "cones" support the roof (above right), and some enclose stairs from the entry level to the display floor (above left). Mostly independent of the architecture, the exhibits (opposite, above and below) can be changed over time.

David Lean's Autostadt).

Nestling her building against the canal also let Hadid create a grand plaza on the south side, facing the city. With its rolling ground plane and a track of lights set into the pavement, the plaza serves as a sweeping front yard that phaeno shares with the city. "The idea was to create a public terrain," says Hadid.

Her second big gesture was to raise the bulk of the building 23 feet off the ground, opening up views through the site, from the city to Autostadt. "I didn't want it to occupy the ground," explains Hadid. Instead, it rests on 10 concrete "cones," curving and canted structural elements of different sizes that seem to warp the building where they meet it. By doing this, the architect created a large, covered public space under the building, an extension of the undulating outdoor plaza in front. Paved with lightweight concrete, then coated with asphalt, this covered plaza works as an otherworldly "moonscape," says Hadid's project architect Christos Passas. To prevent this artificial topography from being too dark or dank, the architects set

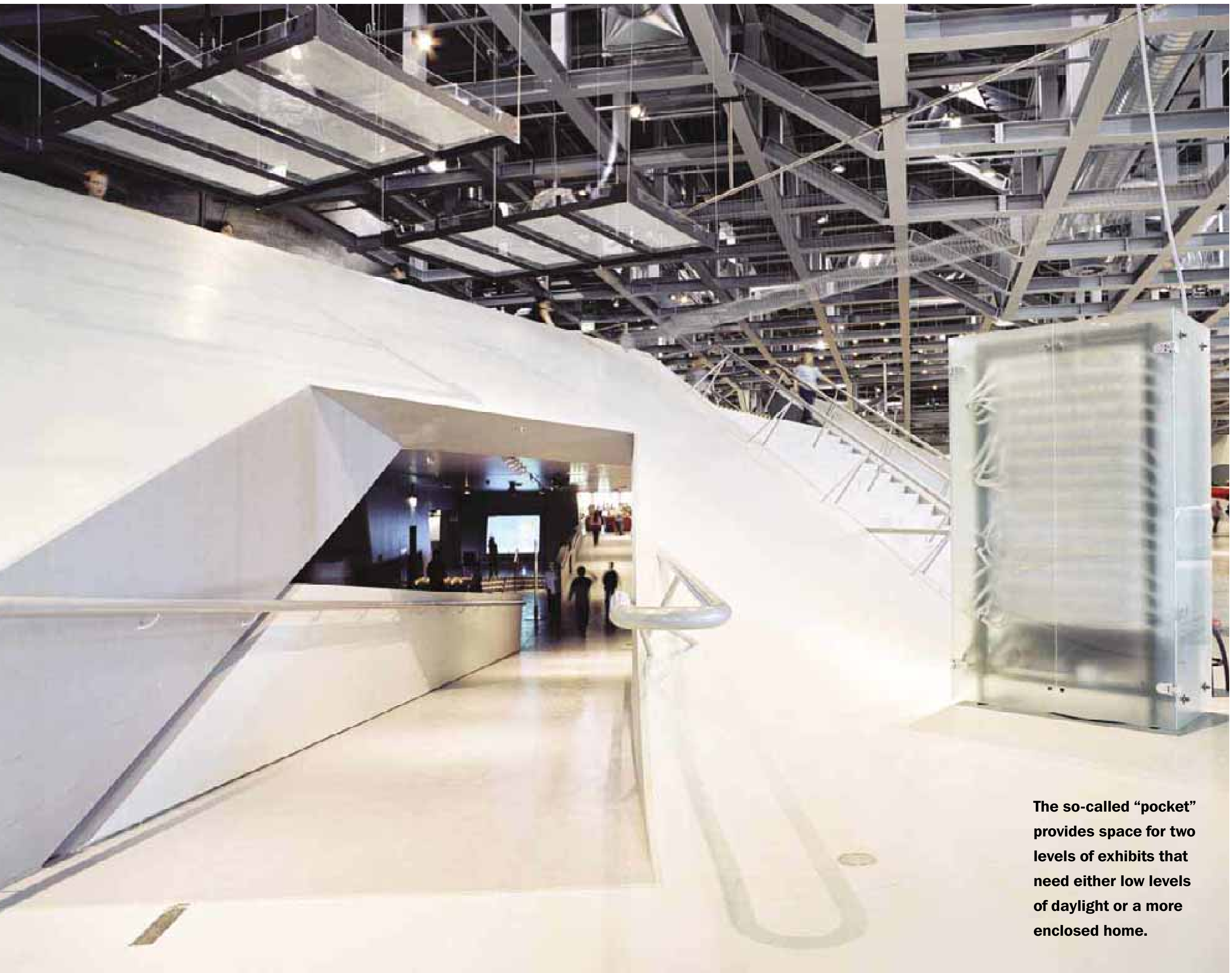
PHOTOGRAPHY: © ROLAND HALBE (TOP AND BOTTOM LEFT)

rhomboid-shaped lights into the underside of the building, creating what Passas calls a "light carpet."

While all of the cones are structural—five rise the full height of the building to support the roof, and five hold up the main exhibition floor—they also contain functional spaces, such as the main entrance hall, an auditorium, a gift shop, a coffee bar, and a special events room. "Structure becomes program," states Hadid. "The idea was to occupy structure." Instead of facing out to the city or Autostadt, the glazed parts of the cones look onto the covered plaza, helping to activate this critical space. Even so, the notion of creating a large covered plaza in northern Germany, where direct sunlight is always welcome, seems questionable. In a place like Hong Kong, where Norman Foster tucked a plaza underneath his Hong Kong Shanghai Bank building, such a move makes more sense.

To create the complex geometries of the cones and other curved and sharp-edged portions of the building, the engineers specified self-compacting concrete, which doesn't need to be vibrated. For the flatter sections of the street facade, they used enormous (40-by-12-foot) precast panels with openings punched out for glazing. The roof, which is exposed inside, is a nonsymmetrical grid of 4,700 steel elements, each individually cut by computer-controlled machinery. Although its distorted geometry and massive scale call too much attention to it, the roof is a fascinating structure that

PHOTOGRAPHY: © ROLAND HALBE (BOTTOM RIGHT)



The so-called "pocket" provides space for two levels of exhibits that need either low levels of daylight or a more enclosed home.

spans nearly 65,000 square feet of exhibition space with no supports other than the five concrete cones that rise the full height of the building.

Inside the building, Hadid created one enormous exhibition space uninterrupted by columns, floor-to-ceiling partitions, or doors. Instead, she sculpted space with sloping walls just a few feet high, with ramps, changes in ceiling height, steps, and a partially enclosed area in the center of the display floor dubbed "the pocket." Traversed by a tunnel-like path and surmounted at one point by a wide stair, the pocket offers darker spaces for exhibits in which daylight would interfere and an upper level for more displays. As she did with the plaza in front of the building, Hadid imagined what she calls an "artificial topography" and then made it real. But this interior landscape works spectacularly well: a fluid, mostly monochromatic environment that offers a rich variety of spatial and sensory experiences for visitors to discover. Hadid's treatment of the gigantic space offers both definition and continuity, creating a multiplicity of places and paths while making it easy for visitors to see where they are going.

The exhibits themselves, which Hadid did not design, have a hard time living up to the quality of the architecture. Organized into nine themes (life, light and sight, movement, wind and weather, micro and macro, energy, matter, information, and games), the 250 "experimental stations" display such things as a fire tornado, sounds made visible, whirlpools, and Pythagoras's theorem. Distributed around the interior like "particles in a field," the exhibits can be changed piecemeal over time. But unfortunately, they seem to be disengaged from the architecture.

With its winglike floor plate, faceted elevations, and graceful curves, phaeno shares many characteristics of Hadid's other motion-inspired projects, such as her BMW building, ski jump in Innsbruck, and the National Center of Contemporary Art (a.k.a. MAXXI), now under construction in Rome. Its extensive plaza and multiple ways of connecting with its setting give it a powerfully urban sensibility. "It's both an object and a field," says Passos. As such, it's an intriguing hybrid that brings together the enduring notion of architecture as sculpture with a more contemporary search for expressing the dynamic relationships of an information-driven, networked world. A lot of architects these days talk about combining these two approaches in their work. Zaha Hadid has done it here. ■

Sources

Exterior metal panels: *Huebener & Moews*

Escalators: *Schindler*

Elevators: *Thyssen*

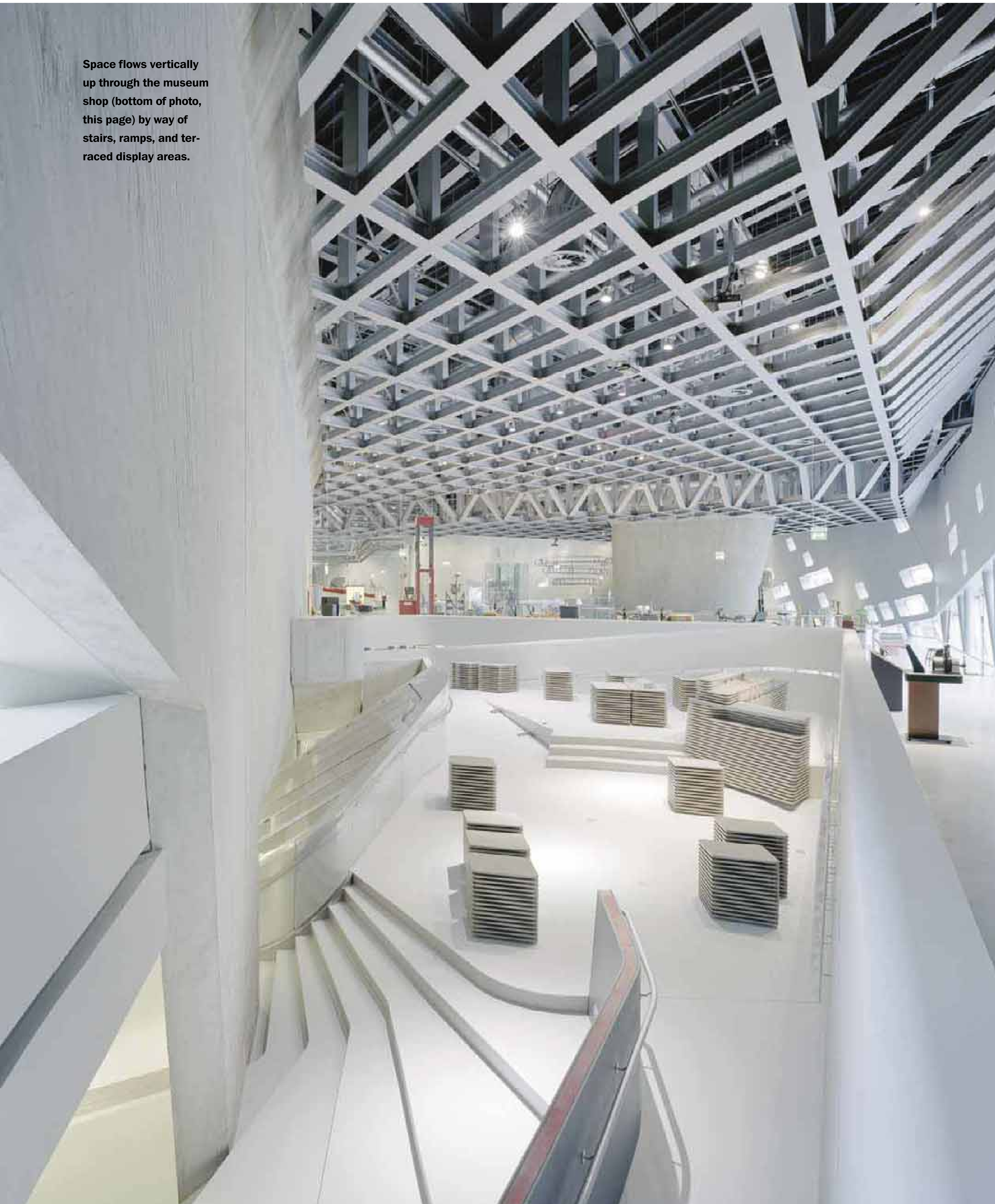
Metal and glass facades: *Gebr. Gieseler*

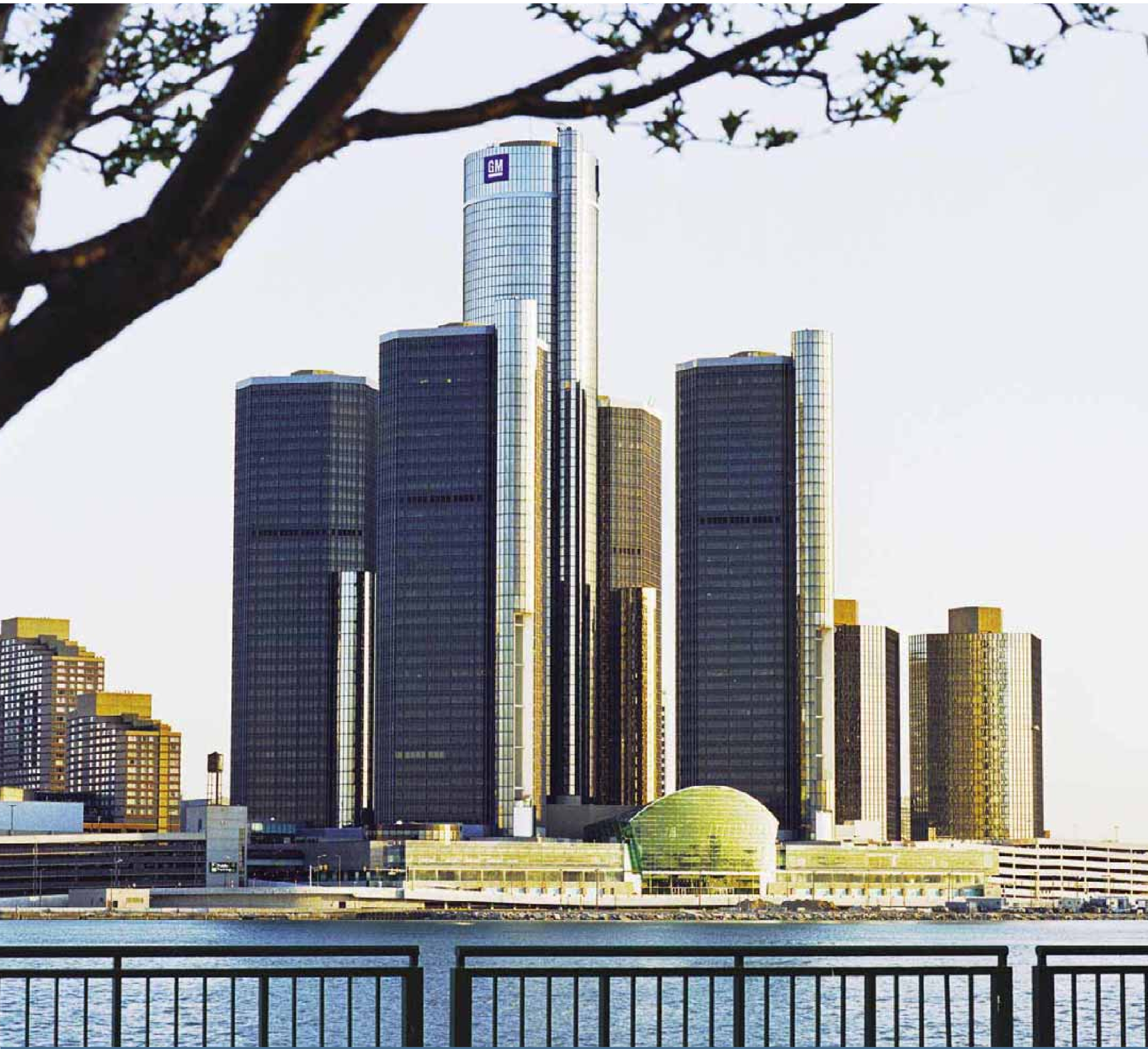
Internal glazing: *Dorma Automatic*

Cone lighting: *Prolicht*

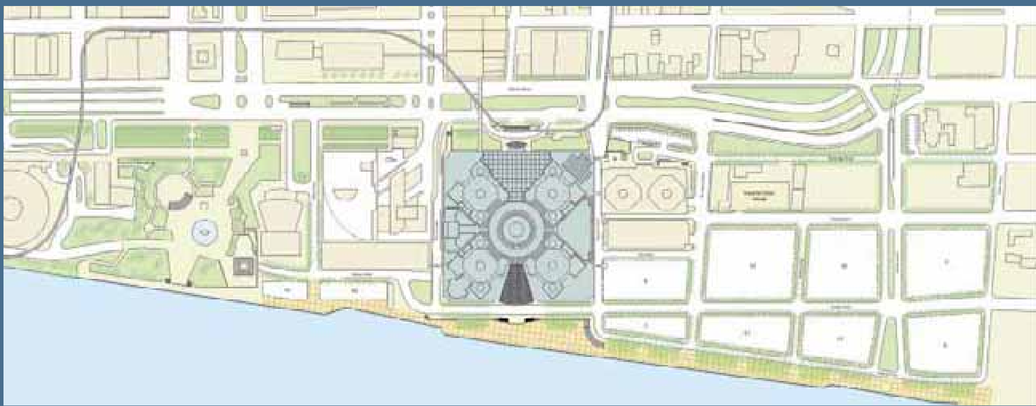
For more information on this project, go to Projects at **www.archrecord.com**.

Space flows vertically up through the museum shop (bottom of photo, this page) by way of stairs, ramps, and terraced display areas.





From the Detroit River (above), G.M. Renaissance Center may still look the same as the complex did in 1977 (opposite), but the base has changed. Skidmore, Owings & Merrill in Chicago has removed the elevated south road blocking the buildings from the water, relocated the parking garage, and inserted glass walls at the base. It also carved out a large, five-story Wintergarden overlooking a new, 3-mile-long waterfront promenade, which connects the complex to other development (site plan, right).



PROJECT DIARY SOM's radical renovation in Detroit, the G.M. RENAISSANCE CENTER, raises hopes for John Portman's famous icon of the 1970s

By Suzanne Stephens

Age-related maladies account for a lot of renovations after 25 or so years. These only partly explain why Skidmore, Owings & Merrill's Chicago office undertook a radical makeover of John Portman's Renaissance Center (RenCen), which opened in 1977. Ironically, much of SOM's work on the office, hotel, and retail complex corrected serious urbanistic and architectural flaws already recognized when the $337 million complex was brand-new. Bruce Wright, an architect and writer, pointed out these problems in 1978 in *Progressive Architecture*: The mixed-use complex was divorced from the city by its placement on a 14-acre concrete podium between the 10-lane Jefferson Avenue and the Detroit River. Two large concrete berms containing HVAC equipment further blockaded it from Jefferson Avenue and the rest of downtown. Elevated roads girdled the complex on the east, west, and south. Inside, the visitors got lost among a disorienting array of ramps, escalators, and elevators created by a repetitive circular geometry of the poured-in-place concrete atrium and hotel. Views of the water were obstructed from inside the atrium: Only by taking the glass elevator up the outside of the hotel shaft to the revolving restaurant could visitors be fully aware of the Detroit River.

PHOTOGRAPHY: © SOM/JUSTIN MACONOCHIE, EXCEPT AS NOTED; BALTHAZAR KORAB (THIS PAGE)

These criticisms didn't seem to worry city boosters at the time. However, by the 1980s, optimism about the ability of this icon of possibilities to revive downtown had palled, and RenCen was no longer hailed as the poster child of urban salvation. Portman's project hadn't been able to stanch the flow of the middle classes to the suburbs in the 1970s and '80s, which left an eroded tax base downtown. Meanwhile, the Detroit auto industry suffered from severe competition from Japan, and layoffs proceeded at a massive rate. As John Gallagher, an architecture critic, has noted, Detroit in the 1980s was clearly a "Rust Belt City in decline." Hotels and department stores began to close, leaving RenCen, which had absorbed most of the office demand downtown, marooned on the river—an inward-turning fortress with no connection to the real city all around it.

By the time General Motors bought the complex in 1996 and hired SOM/Chicago, headed by consulting design partner Adrian Smith, to address its problems, Smith's list of ills far exceeded those Wright had detailed. By then, Detroit's people mover skimmed by the complex, but its elevated light-rail lines, installed in 1987 along Jefferson Avenue, obscured the main entrance. The ring office towers, numbered 100 to 400—which G.M. planned to occupy—were not directly connected to each other, and access to the office towers through the shopping mall was hard for business visitors to navigate.

Naturally, age added to the slew of problems. The glass-fiber-reinforced concrete had not weathered well; it was already falling off in places. A 1988 remodeling of the entrance by SmithGroup now looked dated. Between 1996 and 2004, SOM made major alterations to the building, while RenCen continued to operate as a hotel and office complex. "It's like rewiring a 747 while you're flying it," says Matthew Cullen, the general manager of economic development and enterprise services for G.M.

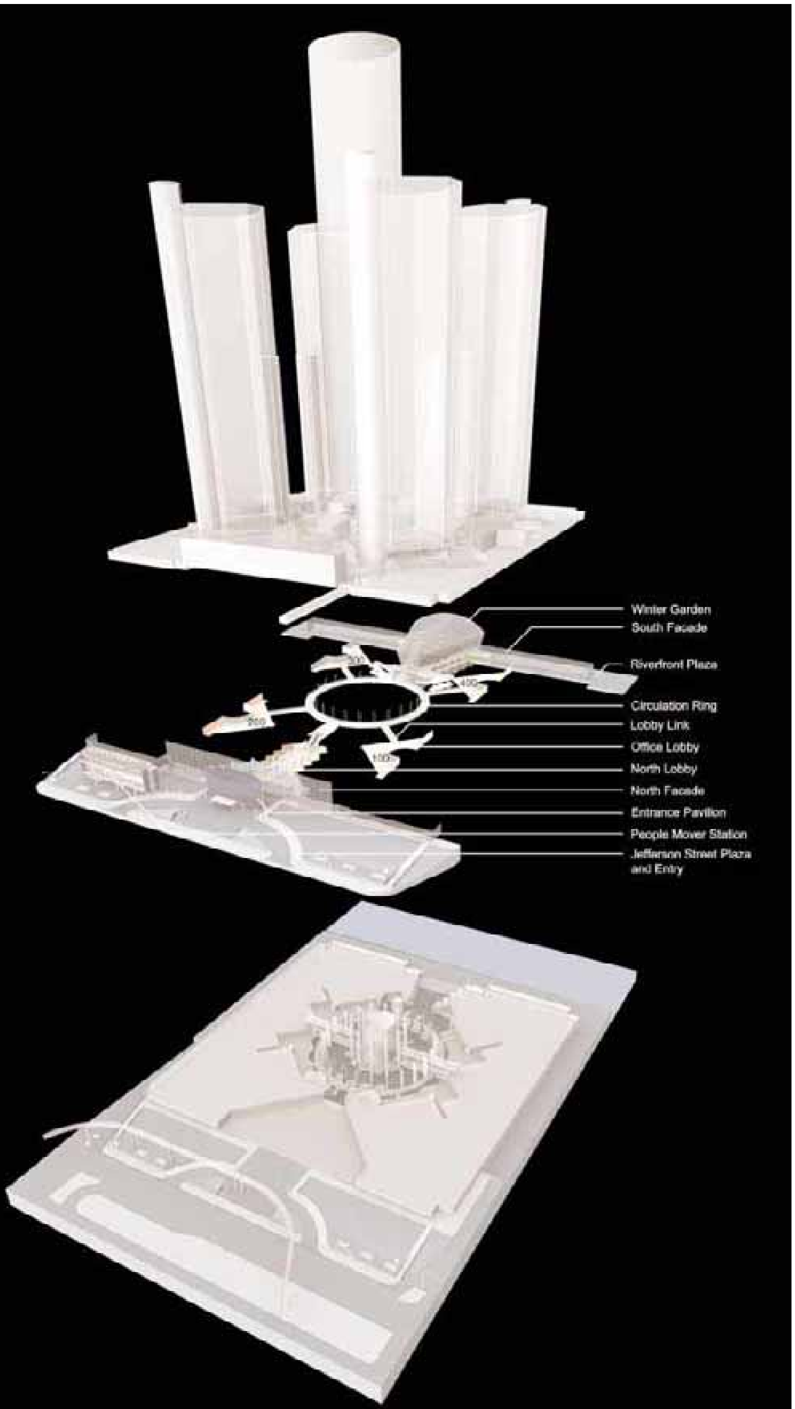
1967–72: Portman's moment in Detroit

The 1967 race riots in Detroit had left city leaders witnessing the white flight to the suburbs, while grappling with the socioeconomic problems for those remaining behind. Meanwhile, in another racially sensitive downtown, the Atlanta Regency Hyatt, designed by architect John Portman (who was also the developer), had opened the same year. The Portman hotel promised a fresh solution to attracting money and people back to Atlanta's decaying downtown. As Jonathan Barnett observed, the hotel's 23-story-high interior atrium through which glass bubble elevators bobbed, "went against all the conventional wisdom of hotel design at the time it was planned" [RECORD, June 1976, page 103], and the media, hotel chains, and urban planners were bowled over. Soon Portman hotels were sprouting up at Chicago's O'Hare Airport, in Los Angeles, San Francisco, New York, and again in Atlanta. Detroit was impressed. In 1971, Henry Ford II; James Roche, G.M. chairman; and other leaders got 51 corporations, including major auto companies, to invest $37.5 million in downtown's rebirth. The Detroit consortium assembled a 32.5-acre site and announced plans for a hotel, office, and retail development, budgeted at $175 million and designed by Portman, to be named Renaissance Center or, as it was fondly called, "RenCen."

1977–78: The extravaganza opens

During construction, costs started mushrooming—even though the U.S.

Project: *G.M. Renaissance Center, Detroit*
Architects: *Skidmore, Owings & Merrill, Chicago—Adrian D. Smith, FAIA, consulting design partner; Richard F. Tomlinson, FAIA, managing partner; Thomas P. Kerwin, AIA, Jonathan Orlove, AIA, project managers; Philip Enquist, FAIA, partner (urban design and planning)*
Engineers: *Skidmore, Owings & Merrill—William F. Baker, partner (structural/civil engineering); Raymond J. Clark, consulting partner (m/e/p and fire protection).*
Interior design: *Skidmore, Owings & Merrill—Jaime Velez, principal*



An exploded computer modeling (above) of SOM's renovation of RenCen shows the relationship between the new elements, such as the Wintergarden, the circulation ring, and the entrance pavilion facing Jefferson Avenue. In 1977 (right), the entrance was hard to see from the road.

When Portman's Renaissance Center was completed, two large concrete berms containing HVAC faced Jefferson Avenue, a 10-lane-wide thoroughfare (above), both of which effectively sealed the complex off from the rest of downtown. SOM removed the berms and redesigned the entrance, which had been remodeled by SmithGroup in 1988.

was still recovering from a recession. In 1977, RenCen opened: Four 39-story office towers with steel-framed and tinted-glass-and-aluminum curtain walls were positioned around a 73-story, 1,400-room circular hotel tower, where reflective glass curtain walls wrapped a poured-in-place-concrete central shaft. By 1978, only 20 of its 100 shops were occupied. While 80 percent of 2.2 million square feet of offices was leased or committed, only 40 percent was filled. Still, 13 restaurants and lounges with oval pods were arrayed throughout the center, beginning with a revolving platform for a bar surrounded by a large pond on the lowest lobby level. At the top of the hotel, a three-level restaurant revolved. Yet, only two additional 21-story office towers were built in 1981, instead of the six more that were planned.

1978–88: Financial woes, and later a makeover

The recession of the 1970s drained Detroit of economic vitality. By 1983, RenCen defaulted on its mortgage for the second time, and the four insurance companies that had bankrolled construction (along with Ford) took over 53 percent ownership. When real estate perked up in the late 1980s, the owners decided to spiff up RenCen, and the leasing managers brought in SmithGroup (formerly Smith Hinchman Grylls), an architectural firm founded in Detroit in 1853. SmithGroup designed a new, two-story entrance lobby on Jefferson Avenue to make it easier for people to find the front door, introducing then-au-courant gestures of corporate Postmodernism, such as an entry arch and polished granite facing the drab base. The firm also located all retail spaces on the first level, giving each a distinct design identity and linking them with a "yellow brick road" of porcelain tiles.

1996–2000: G.M. takes over

In 1996, General Motors bought the core five-tower complex of RenCen, one third of which was empty, to use as its world headquarters. Considering G.M. paid $75 million for the $337 million complex, this was a good deal, except that renovations would cost the company $500 million. G.M. still considers it cost-efficient, as the move consolidated a number of G.M.'s offices downtown. It meant leaving the elegant New Center headquarters, located 5 miles north of downtown in a 1.3-million-square-foot building designed for G.M. by Albert Kahn in 1922. Initially, G.M. announced 7,000 employees would be housed here; currently, there are about 5,000.

After an RFP process, G.M. hired SOM's Chicago office as the master planners and architects for the renovation, with Adrian Smith as lead designer. Through another selection process in 1997, G.M. commissioned Gensler to design the office interiors. In March of this year, G.M. delayed the

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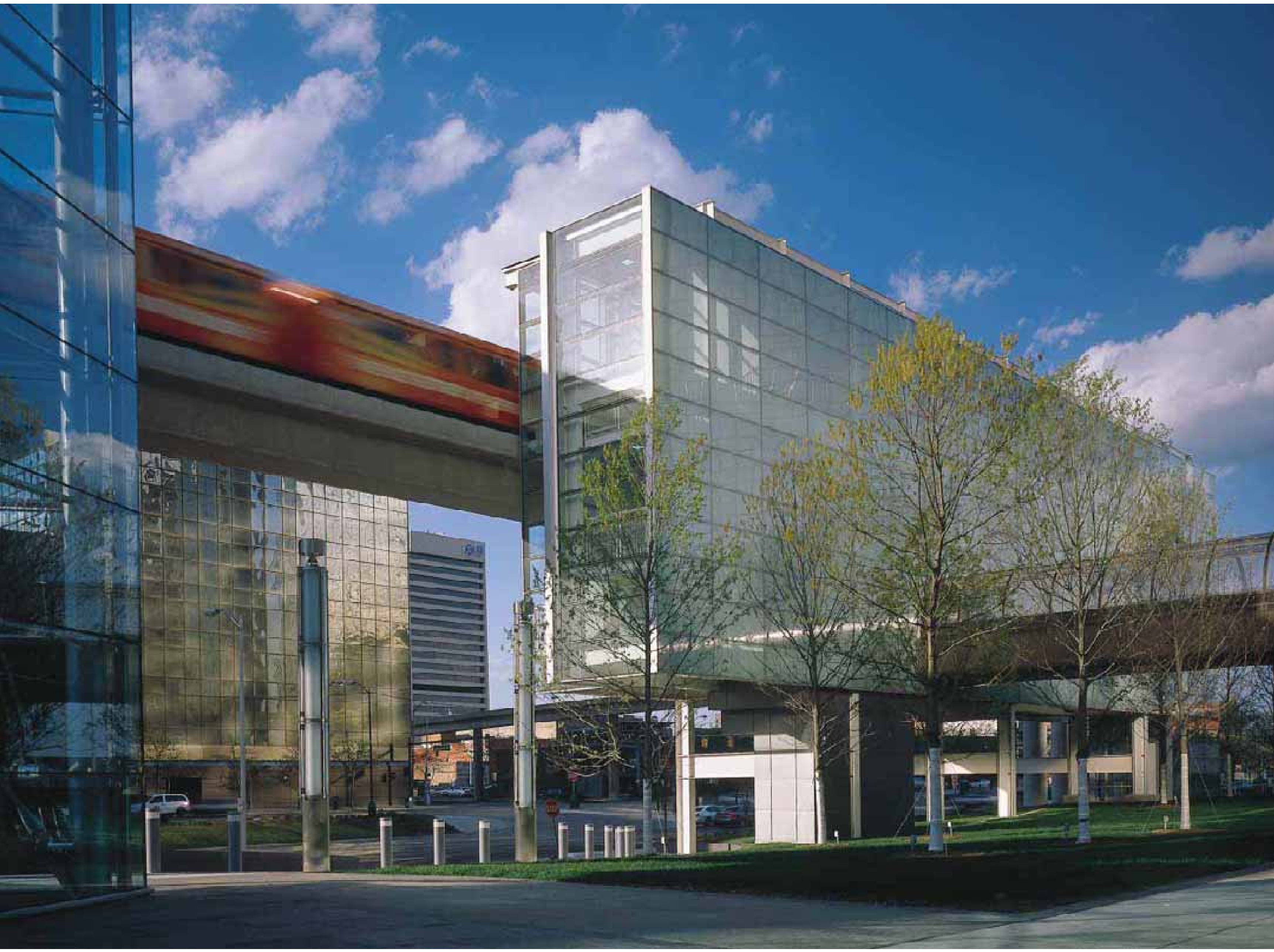
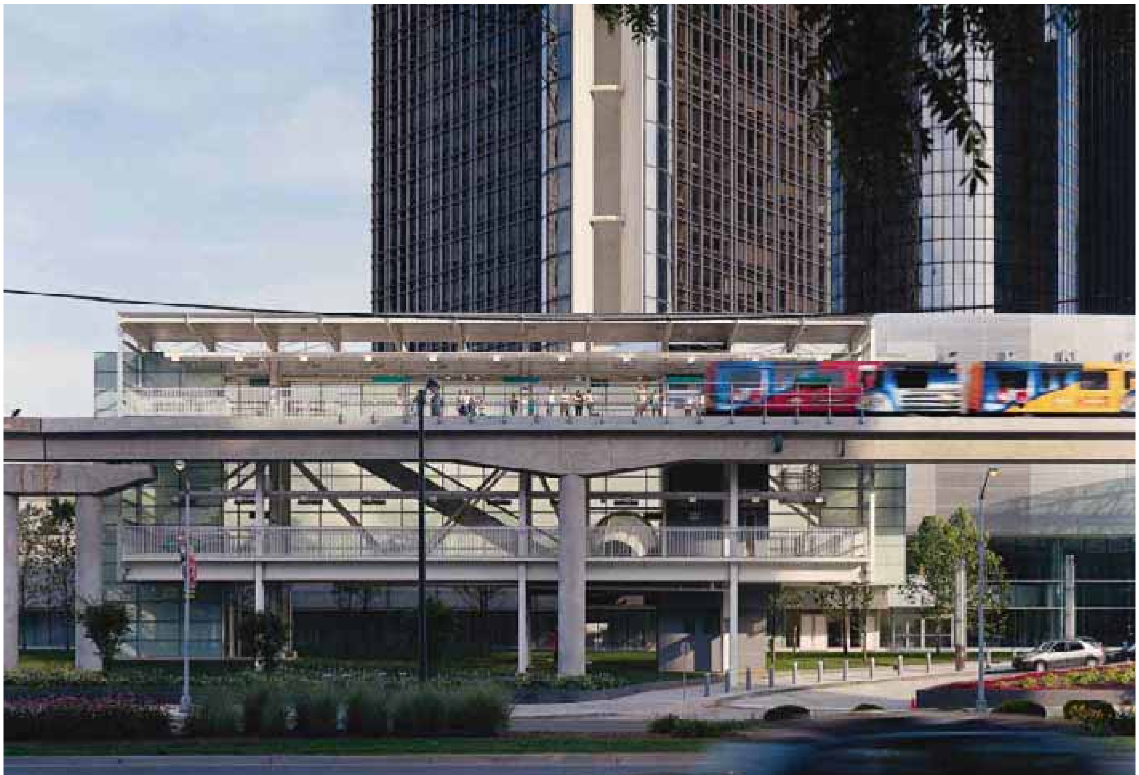
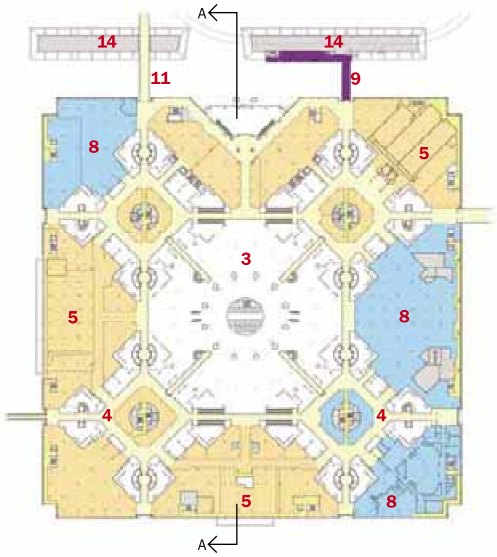


In 1987, a people mover was built with an elevated track along Jefferson Avenue (right). In order to open up the avenue side more to the city, SOM removed berms and redesigned and repositioned the people-mover station to the east. In 2005, SOM's new station opened (above), a rectilinear, three-story steel structure with frosted-glass walls. The station connects via a pedestrian bridge to the mezzanine level of RenCen's lobby.

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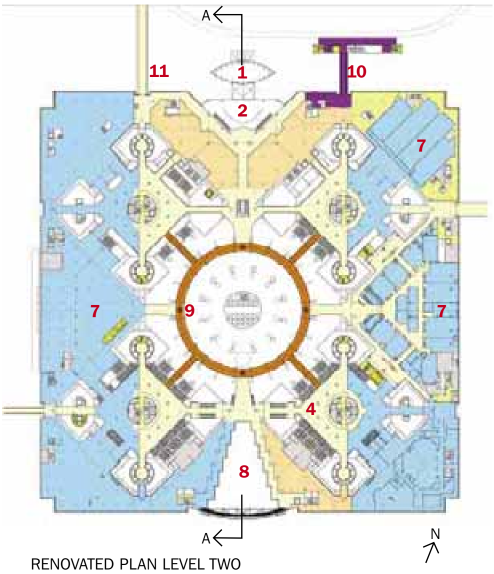
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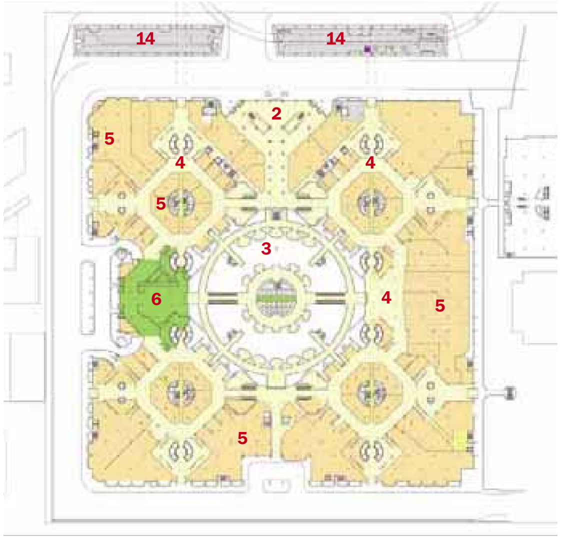
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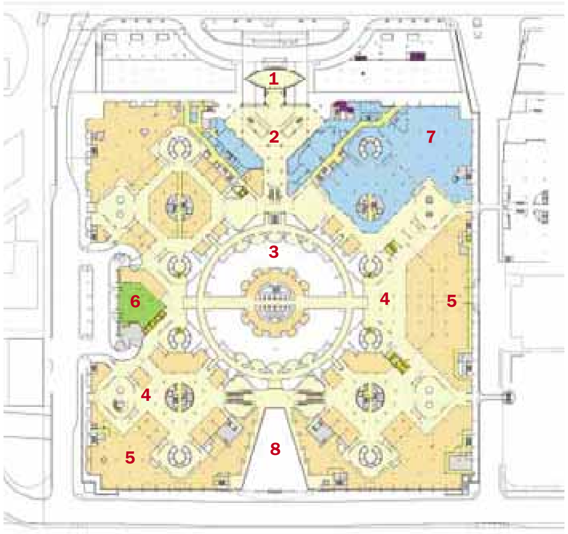
EXISTING PLAN LEVEL ONE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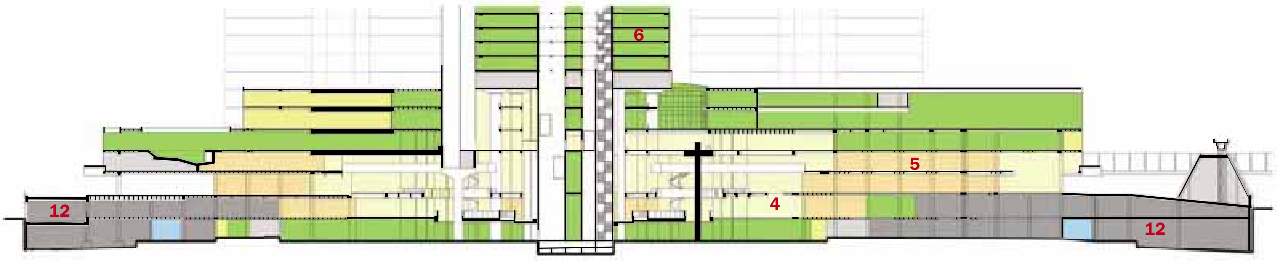
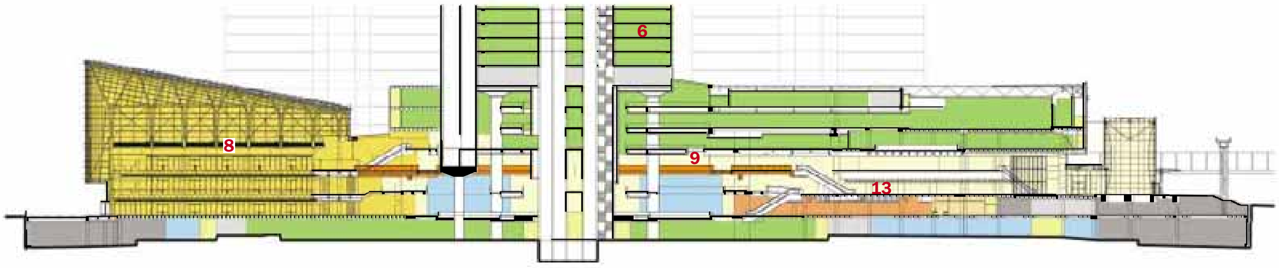
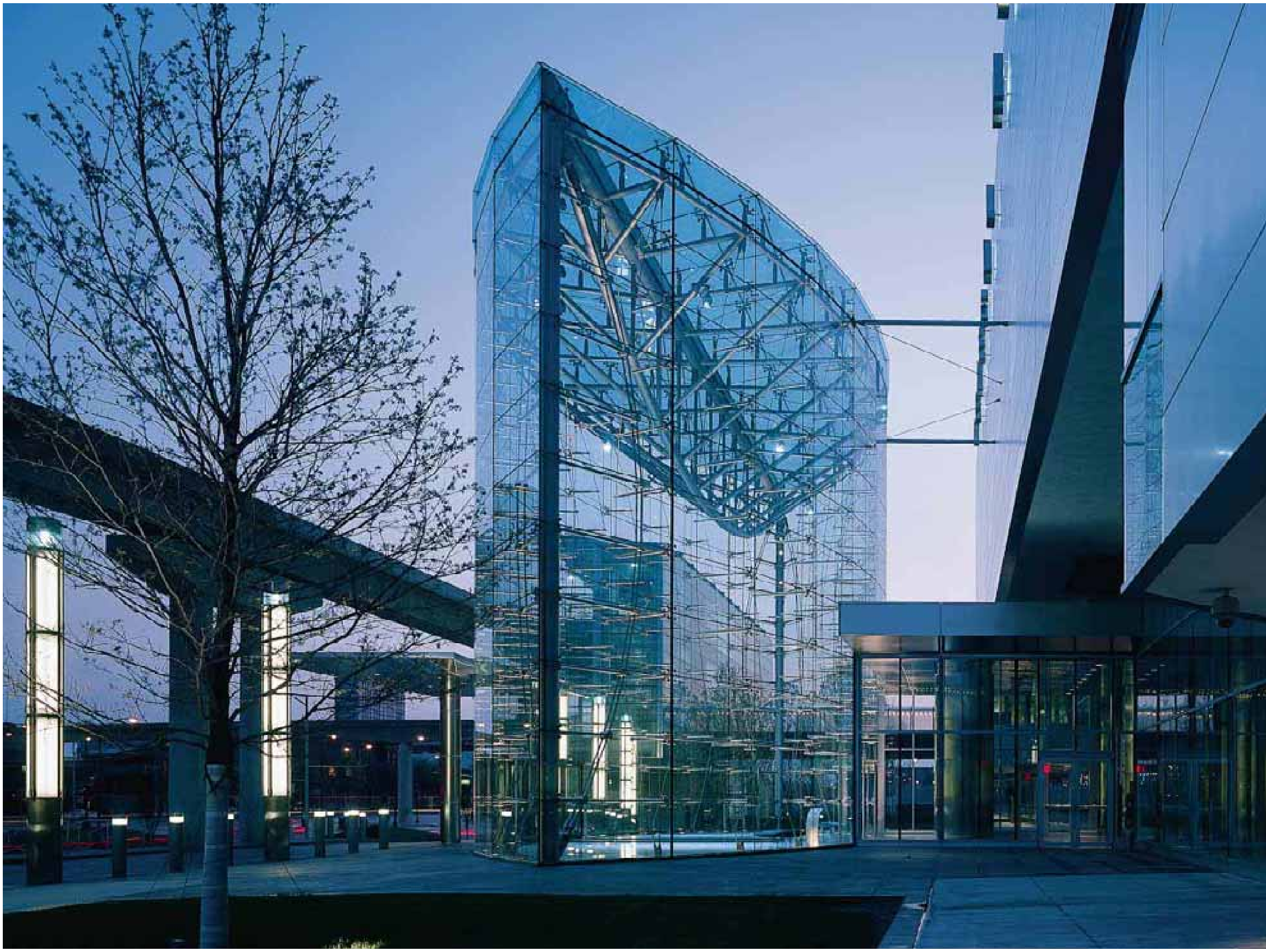


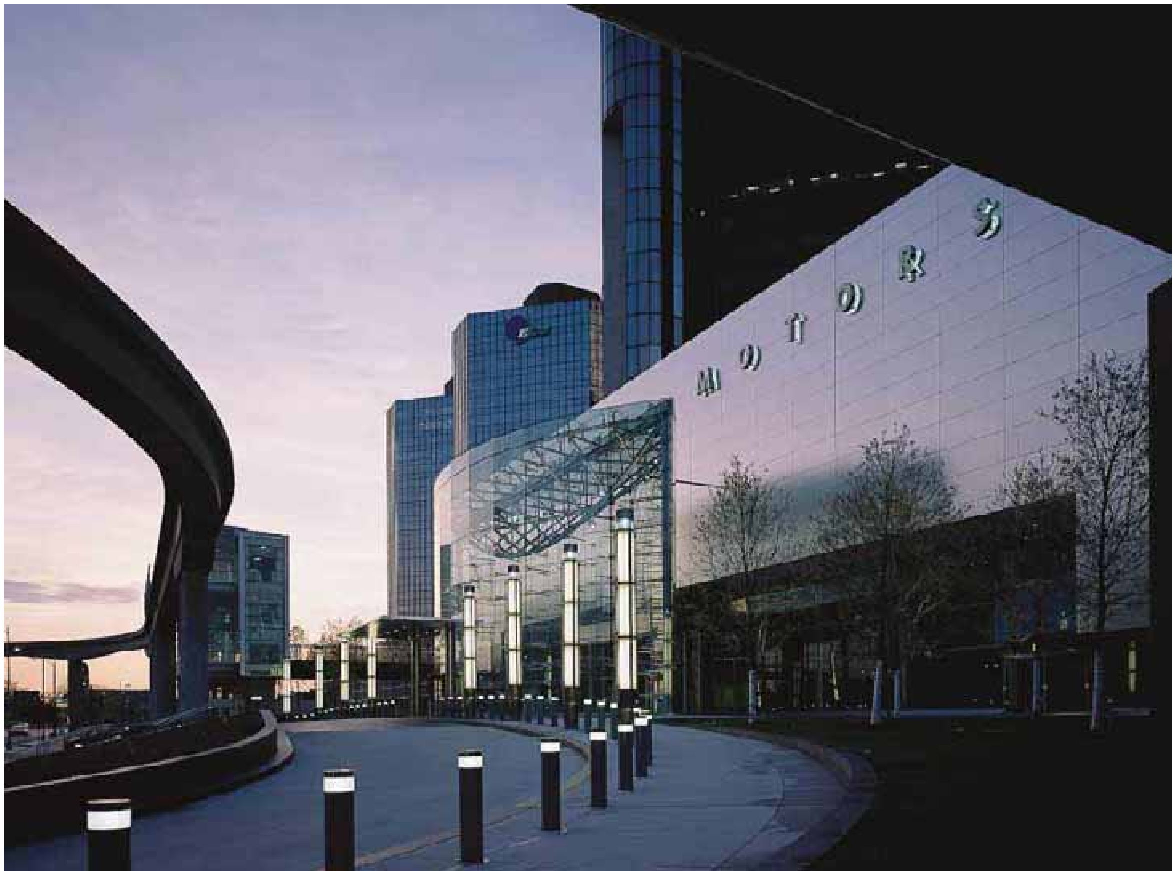
EXISTING SECTION A-A



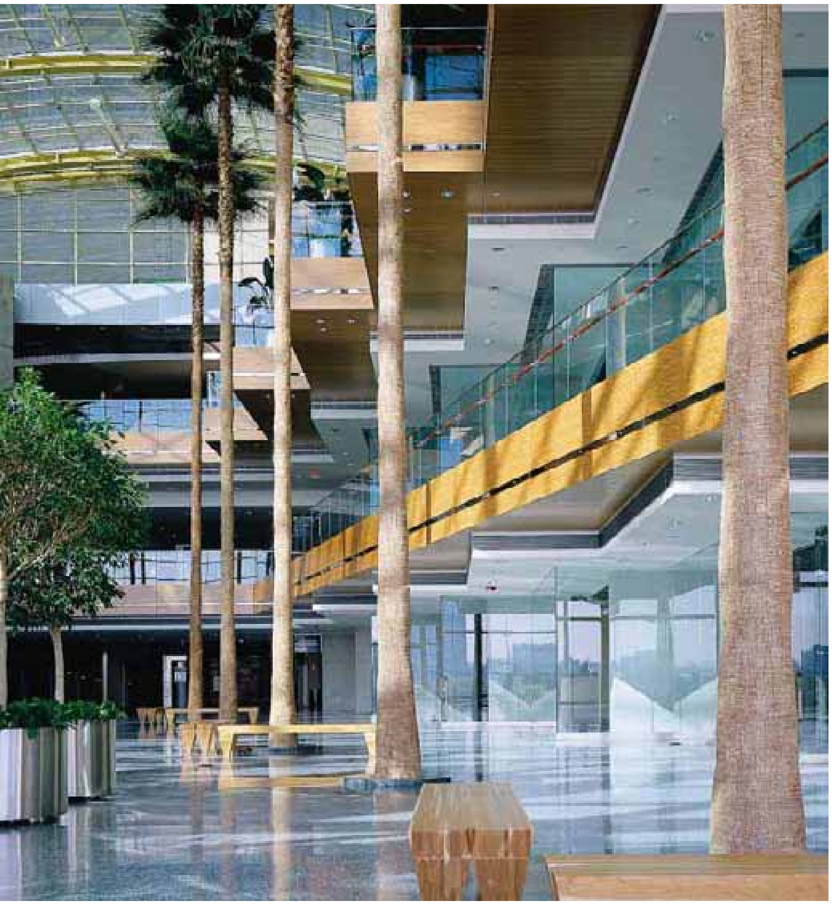
RENOVATED SECTION A-A

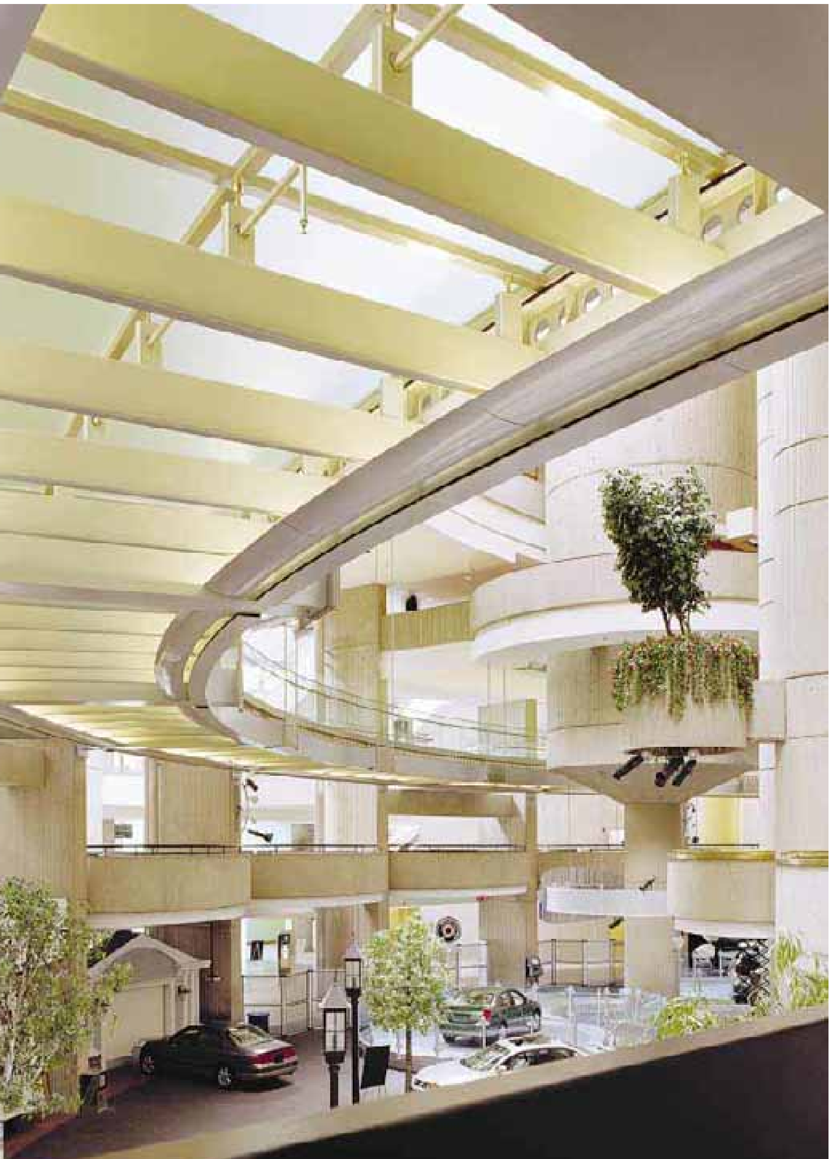
1. *Entrance pavilion*
2. *Lobby*
3. *Atrium*
4. *Circulation*
5. *Retail*
6. *Hotel*
7. *General Motors*
8. *Wintergarden (below)*
9. *Glass circulation ring*
10. *People-mover station*
11. *Pedestrian bridge to Millender Center*
12. *Parking/loading*
13. *Food court*
14. *Berms (removed)*





In order to further define the entrance to G.M. Renaissance Center along Jefferson Avenue, SOM designed an oval glass pavilion, 30 feet high, 30 feet wide at the center, and 96 feet long (above and left). The architects added the lampposts (left) and sandblasted the polished granite from the 1988 remodeling, overlaying the panels with a delicate grid of stainless-steel strips.





The five-story Wintergarden (left), which overlooks the river, provides a much-needed orienting device for visitors. A glass skylight supported on bowed trusses admits light to the large hall, and Eucalyptus wood clads the parapets. G.M. has installed an exhibition space (below left) on the lowest level of the atrium.

start of the project until the city decided whether to locate three casino-hotel complexes nearby. “We were not thrilled, but deferred to the city,” G.M.’s Cullen now says about the casinos’ potential proximity. Ultimately, the casino hotels were placed elsewhere, and in June, the south road, known as Atwater Street, was demolished.

In May 1998, SOM’s design for a $7 million glass walkway got under way. The luminous floor of the 10-foot-wide ring on the second level of the center (see plan, page 86, top right) is formed of laminated tempered glass with an acid-etched surface. Bridges lead off the ring to each of the four office towers, as well as to the Wintergarden, G.M. University (a new 30,000-square-foot training center), and the main lobby. Lighted from below, the floor and its balustrade of clear glass with cherry handrails compete sportingly with the rather gloomy concrete interior.

In March 1999, construction began on the south-facing Wintergarden, a five-story, fan-shaped space created by cutting through three concrete floor plates down to the “A” level, on grade with the Detroit River. Views of the water now open up through a large bowed window wall and arcing glass skylight. The ample space—surrounded by shops, and including a café—which can be transformed quickly into a party hall is filled with “preserved” (maintenance-free) Washingtonia palm trees. The glass roof is supported by bowed trusses, while ocher paint and Eucalyptus cladding add warm tones to the interior spaces on gray days.

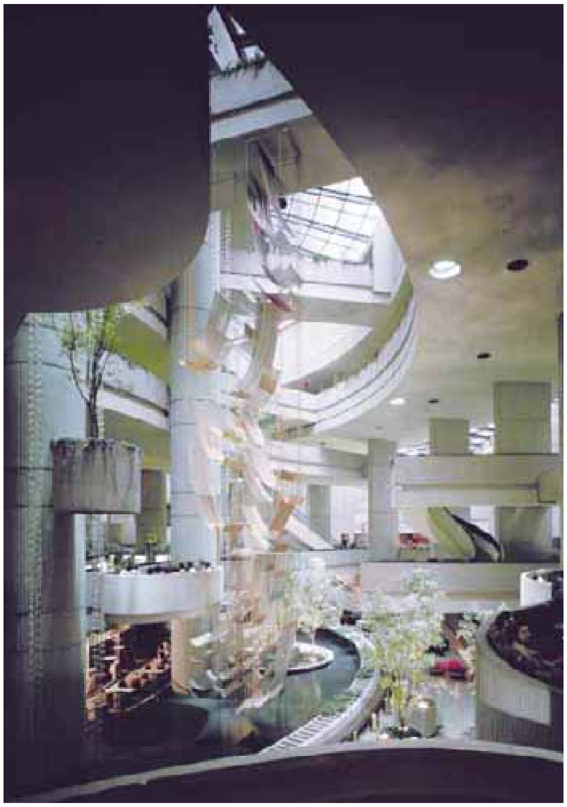
2000–02: G.M. expands its world, makes public improvements

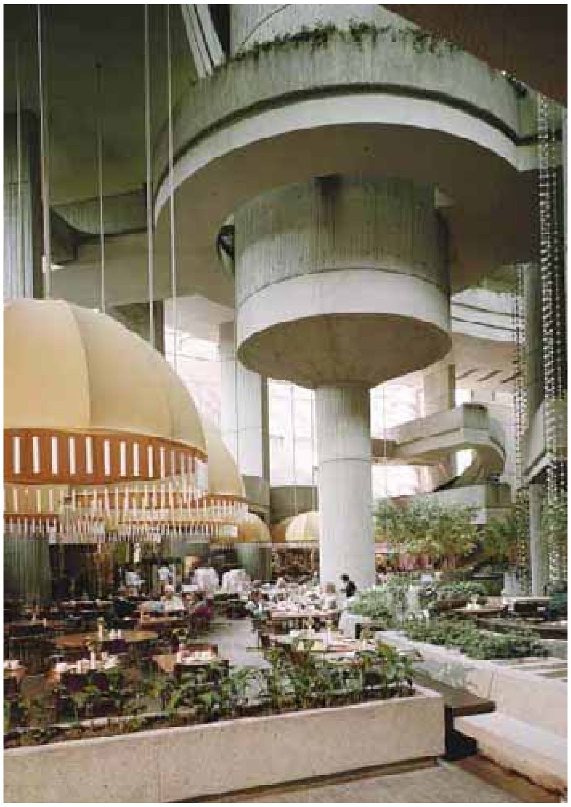
In 2000, G.M. World, a 50,000-square-foot showroom for the latest car models, made its debut on the first level. The company also arranged for Marriott to manage the hotel, with G.M. owning two thirds and Marriott the rest. G.M. agreed to ante up $125 million for renovation costs. The company took on other real estate ventures nearby, making public its plans to lease 25 acres it owned east of RenCen to a residential developer for high-rise condos and rental apartment towers called River East. (As of press time, G.M. was poised to announce the developer for the project.) At the end of 2001, G.M. assumed the entire lease for the last two of the seven RenCen towers (numbers 500 and 600), with the idea of renting out the 570,000 square feet of office space and 50,000 square feet of common area to other companies. G.M. also bought the hotel, parking, and retail spaces (but not its condos) in the Millender Center, just across Jefferson Avenue. In 2002, a 3-mile, $6.2 million riverfront promenade, called Riverwalk, opened in front of RenCen. On the Jefferson Avenue side, two large concrete berms were finally removed for the new entrance, with plans to move the people-mover station, which had been hooked into one of the berms, to the east.

2004: Entrance and lobby in place

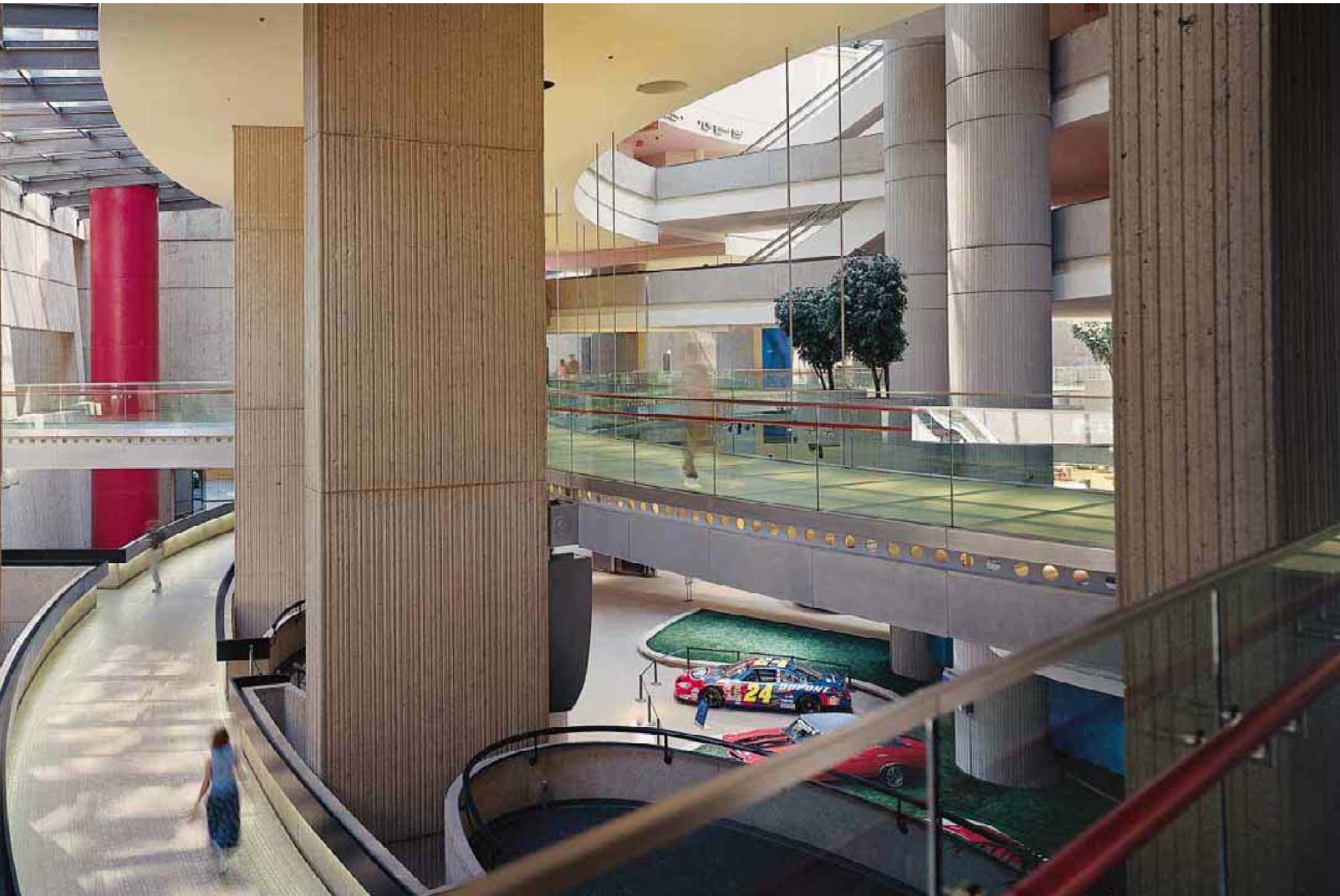
A new, 30-foot-high, 30-foot-wide, 96-foot-long entrance pavilion was erected with single-pane glass walls in 2004. The glass roof of the oval free-standing structure, carried on a bowed truss, is supported by two stainless-steel columns, while vertical double-cable trusses lock the curved glass walls in place. Also completed that year was the new lobby, a two-level space that can be entered behind the transparent pavilion or via mezzanine-level bridges that connect on one side to the people-mover station and on the other to a pedestrian bridge over Jefferson Avenue to the Millender Center. SOM’s Smith worked with British artist Danny Lane to create two undulating green-glass walls, 4 inches thick and 26 feet high, that extend 45 feet on both sides of the lobby and shield activities on the mezzanine levels.

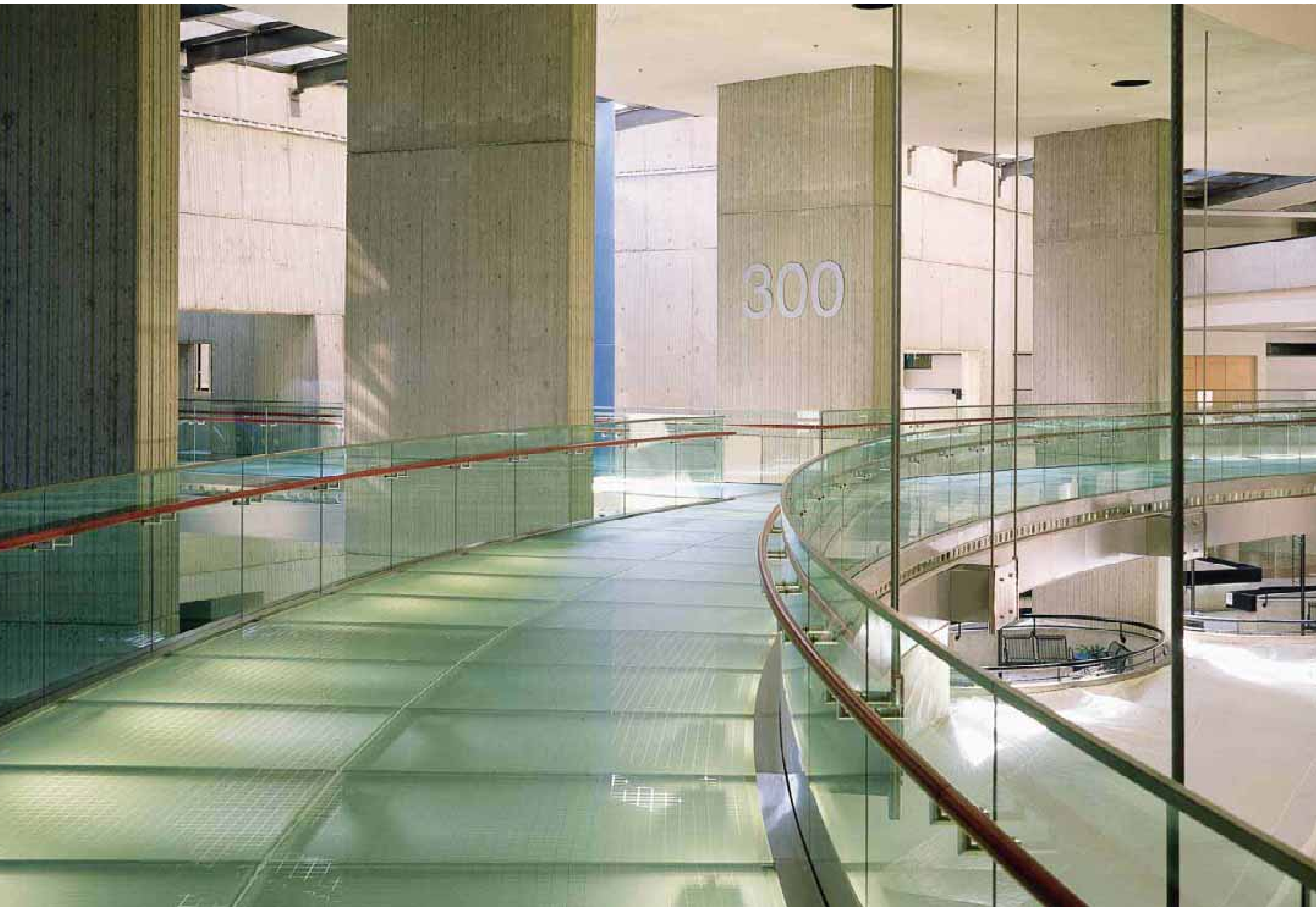
PHOTOGRAPHY: © BALTHAZAR KORAB (OPPOSITE, TOP TWO)





When the Renaissance Center first opened in 1977 (left two), thirteen restaurants and cafés were sprinkled throughout the cavernous space. Today (below), fewer cafés, restaurants, and fast-food places are located in the atrium proper. The recent renovations left ample amounts of poured concrete exposed in the atrium (below), now darker with age.





A glass circulation ring (above) on the second level now links the four office towers. The steel ring is suspended by cables 20 feet on center, which in turn are fastened to the concrete columns.

The sinuous sculpture, formed of some 2,000 clear, polished-glass pieces, sits on a concrete curb beam and is laterally braced by bookends of stainless-steel members. Steel trusses cantilevered from the mezzanine support the walls at mid-level. To guide visitors proceeding from the entrance lobby to the interior, SOM created a central aisle, edged by a series of staggered Eucalyptus wood panels that connect in turn to glazed storefronts (G.M. says they will be used as a media center). Non-SOM additions included two restaurants that opened in the lower levels that year, plus another on the top two floors (that doesn't revolve). Also by 2004, Riverfront Shops, with 235,000 square feet, occupied two levels around the Wintergarden.

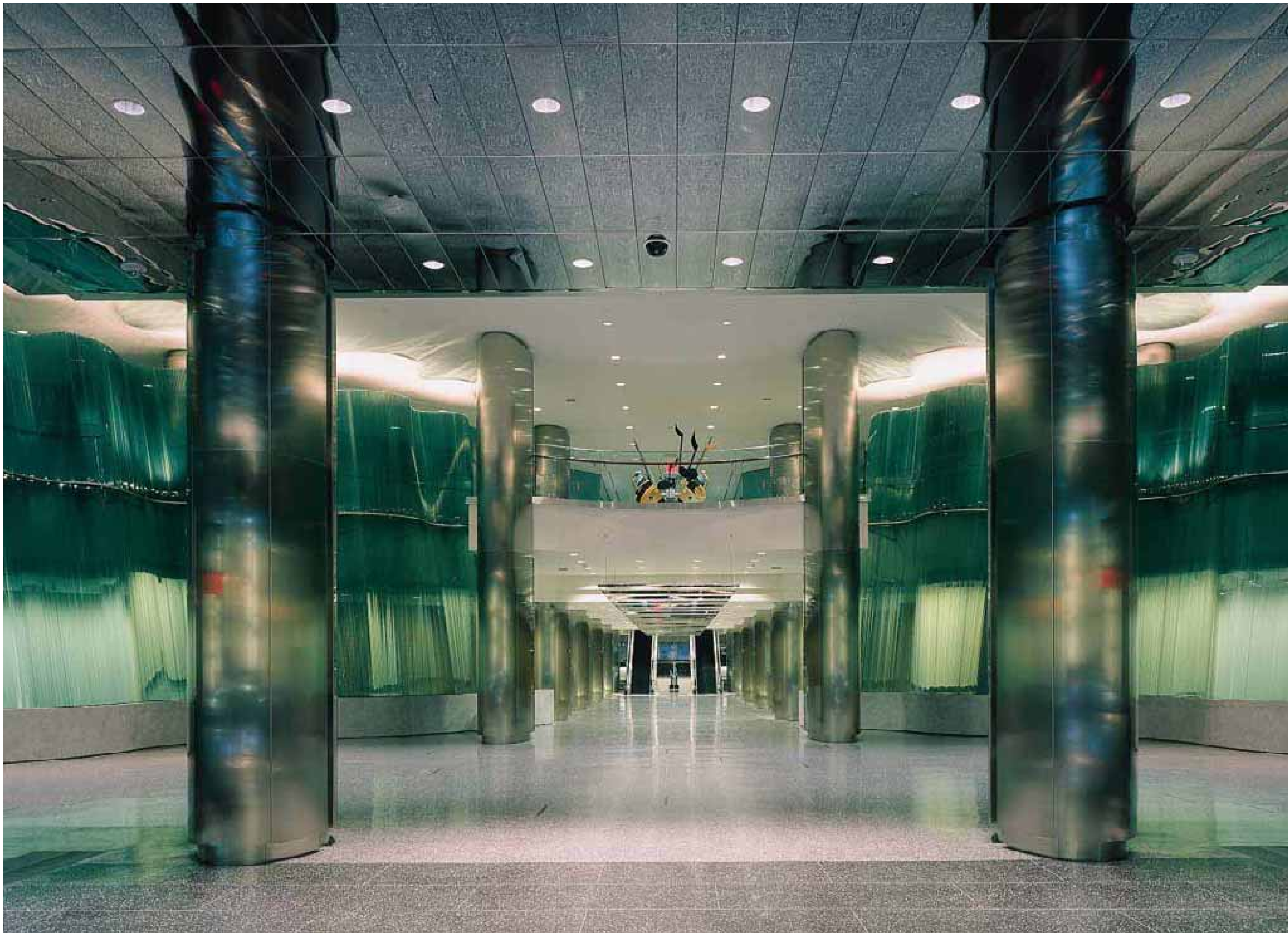
2005: Rocky times for G.M.

Ironically, a new, three-story, glass-and-steel station for the mass-transit people mover, connected via a bridge to RenCen's lobby mezzanine, would open during the year that G.M. (and the U.S. automotive industry) started tanking. In 2005, G.M.'s shares sank and the company cut back on matching retirement funds and pay raises. By the summer, G.M. announced the closing of assembly plants in Baltimore; Linden, New Jersey; and Lansing, Michigan. Standard & Poor's revised its rating on G.M. stock from stable to negative, and in December, one of its analysts surmised that G.M. might have to declare bankruptcy in the near future to lower pension and labor costs. The same month, mega-investor Kirk Kerkorian gave everyone the jitters by cutting his stake in G.M. from 9.9 percent to 7.8 percent, while indicating he wanted a seat on G.M.'s board.

2006: Signs of life (for Detroit and RenCen)

During the North American International Auto Show in Detroit in January 2006, smaller cars and hybrid cars, particularly those from foreign manufacturers, including the indomitable Toyota, were getting publicity—yet G.M. remains upbeat about its products. As for RenCen, G.M.'s Cullen says the shops are 70 percent occupied (although at the end of 2005, this observer noticed lots of empty storefronts). Cullen is high on the effect of RenCen on the local economy. "Downtown Detroit is doing terrifically better," he says. "The city had been in economic free fall, but we helped foster development through this renovation." Because of other recent projects built downtown—which include two stadiums, a new Compuware building, and the three casinos—Detroit leaders are saying the turnaround has finally occurred, and the city will attract tourists, residents, and business.

As this issue goes to press, the Super Bowl is being held at Ford Field, which opened in 2002. For the event, RenCen is hosting the National Football League and is acting as the center for the media, with ESPN even broadcasting out of the Wintergarden. "This place will be fun," says Cullen. (Sorry to miss it …)



In the new lobby (above), SOM wrapped concrete columns in stainless steel and installed a wavy glass sculpture. Eucalyptus wood panels (left) edge the central entry path.

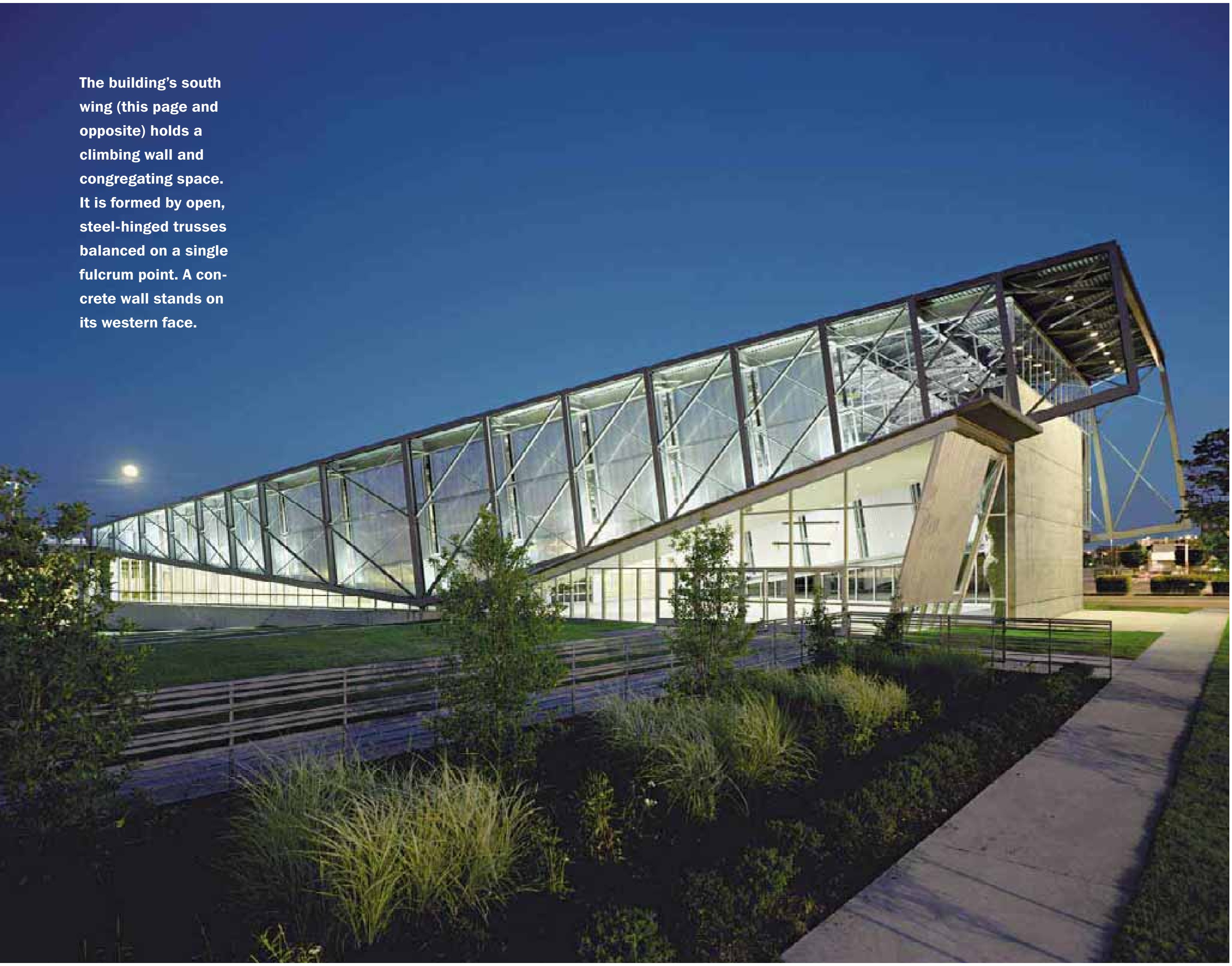
Lessons learned

Who knows the future of RenCen's renovation and G.M.'s involvement? Nevertheless, the drastic changes have definitely improved the building and its linkage to the city. (It's too bad the speedy approval process in 1972 ignored the obvious flaws that finally were addressed.) SOM's interventions—such as the entrance pavilion, the lobby, the glass circulation ring, and the Cesar Pelli-ish Wintergarden—do make RenCen noticeably more welcoming, if a bit eclectic stylistically. Yet the ungainly exterior walls of the complex and (now dingy) interior concrete remain, along with the irksomeness of not being able to cross the atrium space in a straight line. The basic DNA is the same, and you still feel as if you are wandering through a Piranesian parking garage. Perhaps another $500 million could fix that. ■

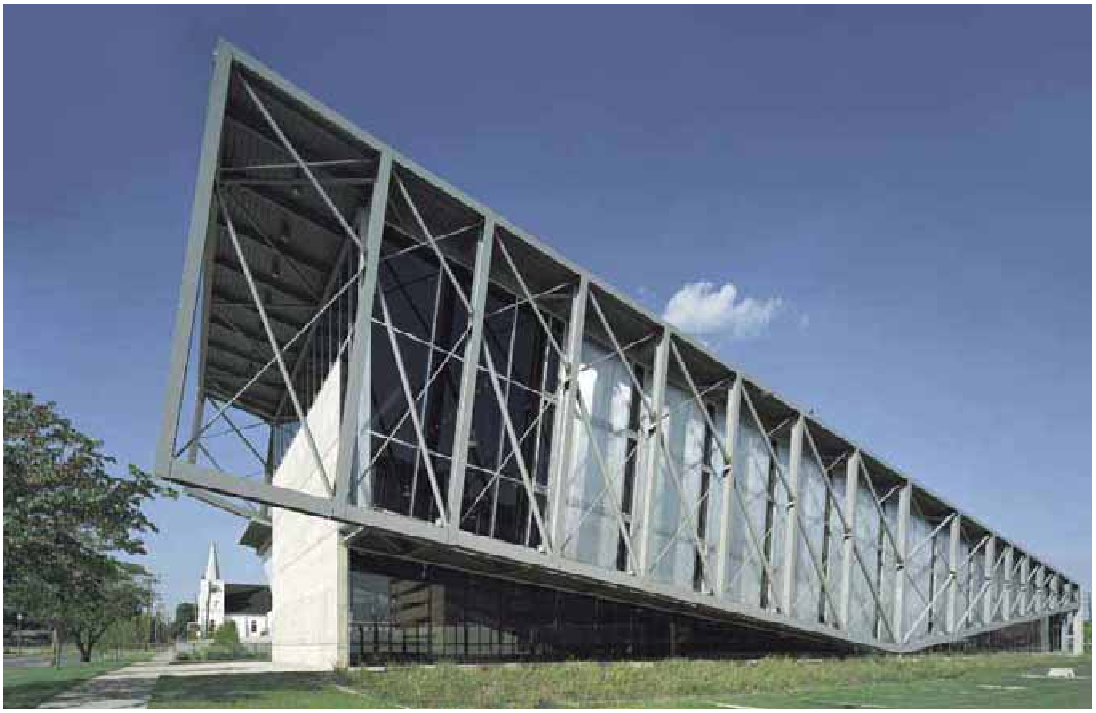
Sources
Stainless-steel structure for Wintergarden, circulation ring, and entrance pavilion: *MERO Structures*
Glass for circulation ring: *FiglaUSA*
Eucalyptus facing: *Bacon Veneer (Wintergarden); Dooge Veneer (north lobby)*
Glass railings: *Soheil Mosun*
Granite pavers: *Cleveland Marble Mosaic Company*

For more information on this project, go to Projects at **www.archrecord.com**.

The building's south wing (this page and opposite) holds a climbing wall and congregating space. It is formed by open, steel-hinged trusses balanced on a single fulcrum point. A concrete wall stands on its western face.



buildingstudio designs a modern community space, BRIDGES CENTER, that helps mend social divides in Memphis



PHOTOGRAPHY: © TIMOTHY HURSLEY

By James Roper

The new headquarters for BRIDGES, a Memphis-based nonprofit that helps promote local community and racial cohesion, could have been just another "big-box building" sitting next to its parking lot. After all, to accommodate the client's request for 120 parking spaces for staff and guests meant that more than half the building site in downtown Memphis would have to be covered with asphalt.

But the design team, from Memphis's buildingstudio, avoided such a "conventional suburban solution" by putting the parking lot on the roof, with an inclined parking ramp helping to give the building its form, says principal Coleman Coker. Such innovative design schemes, it turns out, are commonplace in this remarkably dynamic, yet still contextual building.

The client, BRIDGES, traces its history of youth advocacy back more than 80 years to a program started by the Episcopal church. One of its most important goals is to bring together high school students, both white and African-American, for a variety of activities to encourage understanding and cooperation between the races. BRIDGES also helps teach individuals how to take responsibility for their actions, face challenges with confidence, and work toward common goals for the community.

The 2.7-acre site, located in the city's oldest neighborhood, Greenlaw, has about 325 feet fronting each surrounding street. As with many urban neighborhoods, the area had gone into decline but has lately begun to experience a rebirth. BRIDGES deliberately chose the site for its headquarters as a sign of its commitment to the inner city.

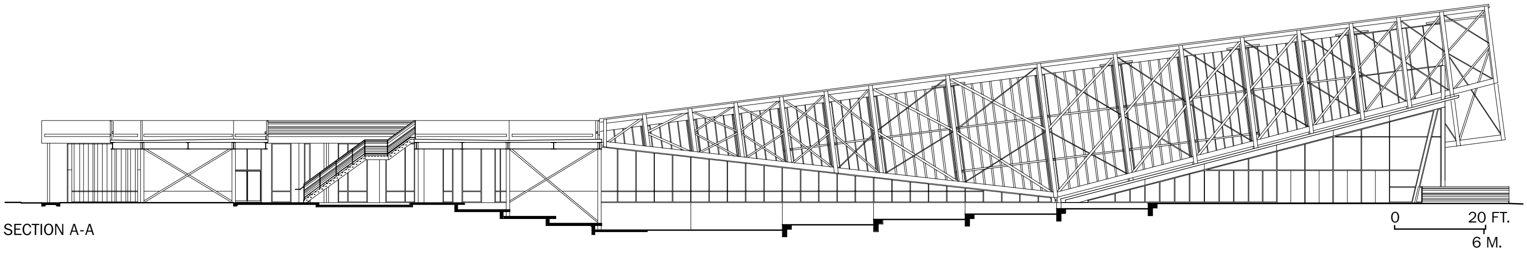
James R. Boyd, president of BRIDGES, says the group gave the architects a list of its aims for the building, including a focus on both local children and the neighborhood. The building also had to respect the environment and have flexible spaces, which could be used for many purposes. Not least, Coker points out, the 53,000-square-foot project had to be distinctive.

The new headquarters, which takes up an entire city block, is composed of two wings organized around a wedge-shaped open plaza that extends the length of the property. An open breezeway, framed by a bridge connecting the parking decks on top of the two wings, separates a

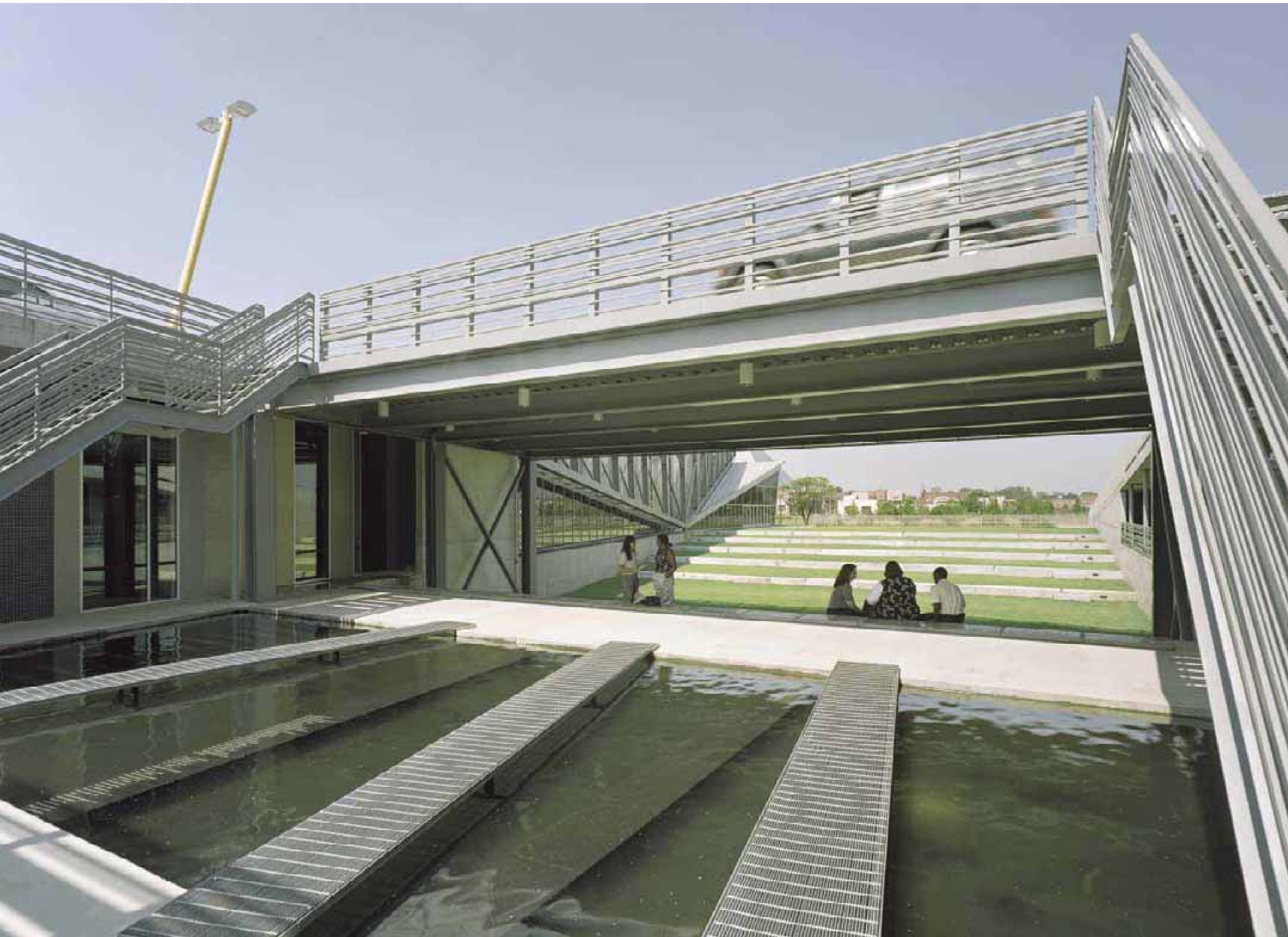
James Roper is a freelance writer and editor who covers architecture and design.

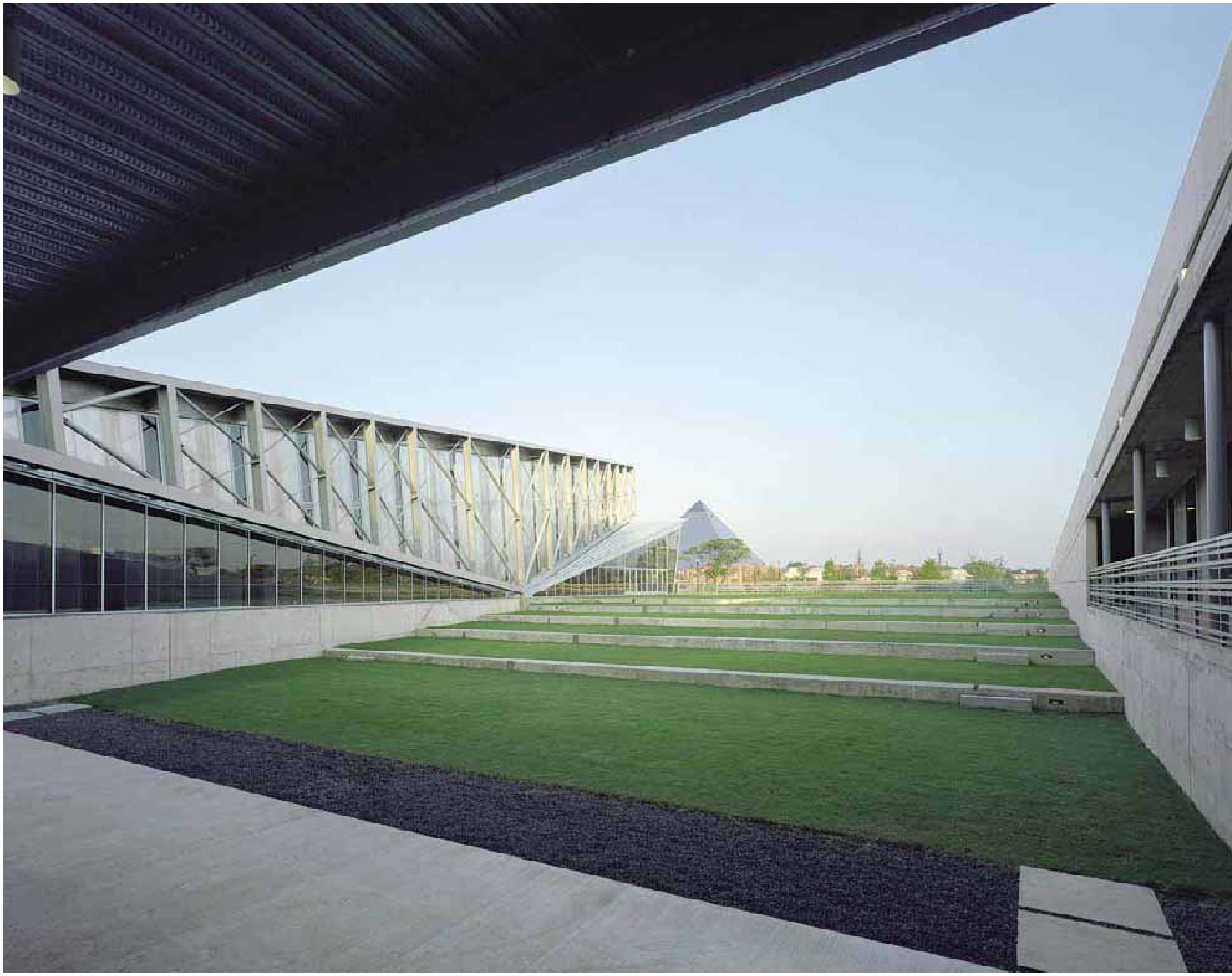
Project: *Bridges Center, Memphis*
Architect: *buildingstudio—Coleman Coker, Jonathan Tate, David Dieckhoff, Christopher Schmidt, Anastasia Laurenzi, Carl Batton Kennon, Collette Reid*
Engineer: *Guy Nordenson and Associates (structural); Arup, New York (m/e/p, fp); ETI Corporation (civil, and landscape architect)*
General contractor: *Jameson Gibson Construction*

One facade of the building, facing the residential neighborhood (left two), contains a small plaza with picnic tables. An open breezeway, framed by the parking deck above, separates a pool from a sloped, grassy ampitheater (bottom).



SECTION A-A





pool from a grassy area that doubles as an ampitheater. The ampitheater's sloped surface provides seating for 1,000 people.

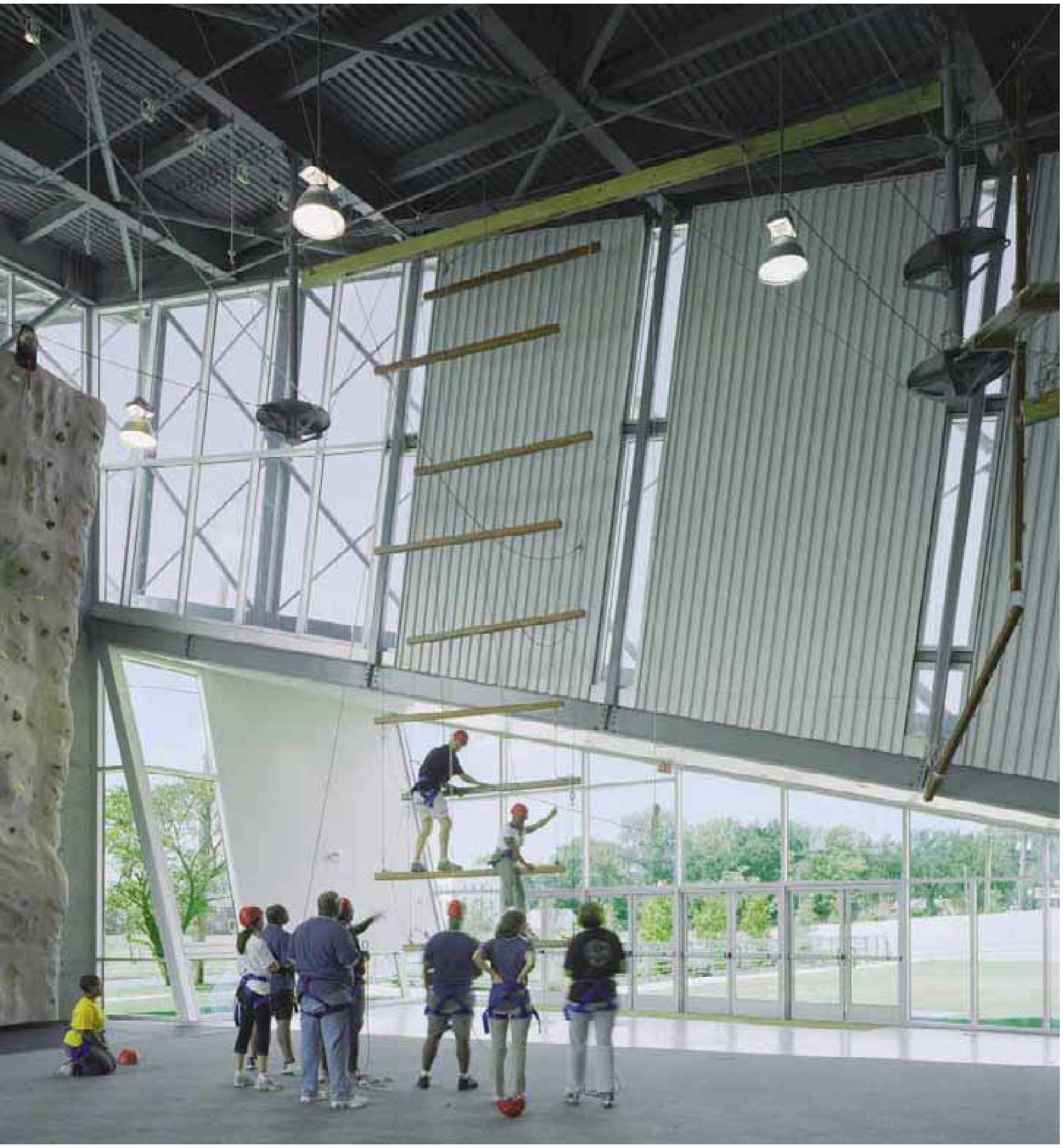
Coker notes that the architects wanted to create a building that was itself a "teaching tool," clearly expressing its tectonics, rather than "trying to design an environment that might superficially appeal to children."

Accordingly, visitors can observe much of the structural, mechanical, and electrical systems of the building, which are exposed, both inside and out. Translucent wall panels reveal electrical conduits and wall framing; cutaway ceilings show heating and air-conditioning equipment. Nowhere is this teaching component more visible than in the structural makeup of the south wing, designed by Guy Nordenson and Associates engineers. The long-span structure is supported on exposed cantilevered steel trusses on its south and north sides. The north truss tapers up equally in both directions from its center, while the south truss tapers up only on its east side. The supports for the trusses were left visible at the ground, providing further clarification of the structural system.

Inside, the building's wings contain classrooms, arts spaces, staff offices, and a large gathering hall. The corrugated-metal-lined gathering area, which is primarily for student activities, also serves as a meeting and banquet space. The centerpiece of this space, located in the building's southwest corner, is a 30-foot-high climbing wall surrounded on all sides by glass. Adjacent are six "breakout" rooms where participants split into smaller groups for discussions and activities. These are well used: BRIDGE builders, a program for youths as well as corporate groups, makes use of the climbing wall and a high and low ropes course in the gathering area. Arts BRIDGE, an afternoon arts program for inner-city children, takes place inside the arts studios located in the building's northwest corner. Work BRIDGE, which takes place in the building's classrooms and activity rooms, provides career development, training, placement, and coaching.

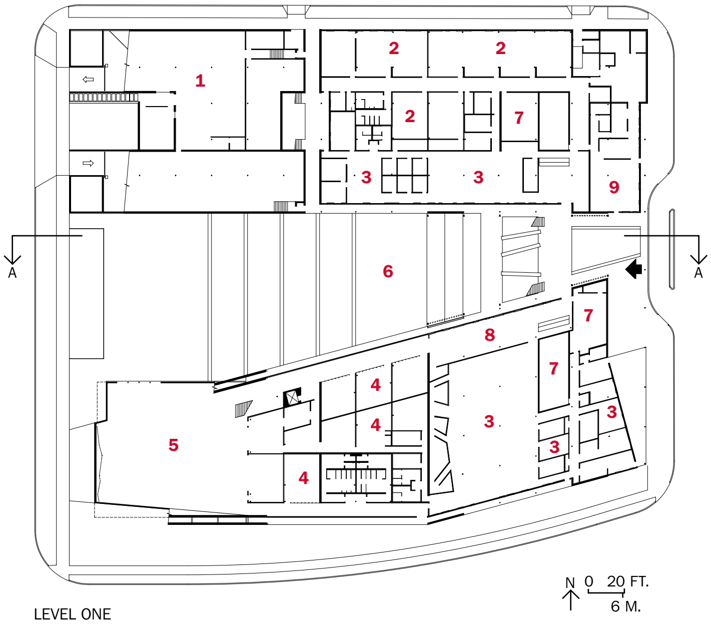
Incorporated into the sustainable design are retention areas for rainwater, photovoltaic arrays that produce electricity, and a solar water heater for the building's hot water. Windows are operable throughout, and the high ceilings feature wide overhangs, especially to the south. Natural light is more than abundant in the space. These are features that Boyd finds especially appealing. "What do children appreciate the most?" he asks. "Light and air." Materials with low-embodied energy are used throughout; and the use of fly-ash concrete recycles waste material oth-

The sloped ampitheater, which also serves as a public space, seats 1,000. It separates the building's northern and southern wings and provides dramatic views of Memphis's downtown Pyramid Arena.



The main meeting space (left) is lined with corrugated metal and glass, allowing copious light inside. A climbing wall (opposite, top) is one of many activities that take place inside the main space. Light-filled hallways (opposite, bottom) lead to classrooms and offices throughout the building.

1. *Arts bridge*
2. *Classroom*
3. *Offices*
4. *Activity room*
5. *Gathering room*
6. *Ampitheater*
7. *Garden courtyard*
8. *Reception area*
9. *Cafeteria*
10. *Mezzanine*
11. *Roof terrace garden*
12. *Parking*



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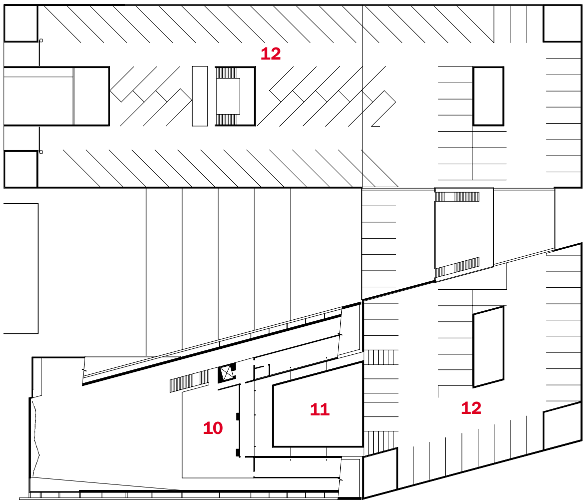
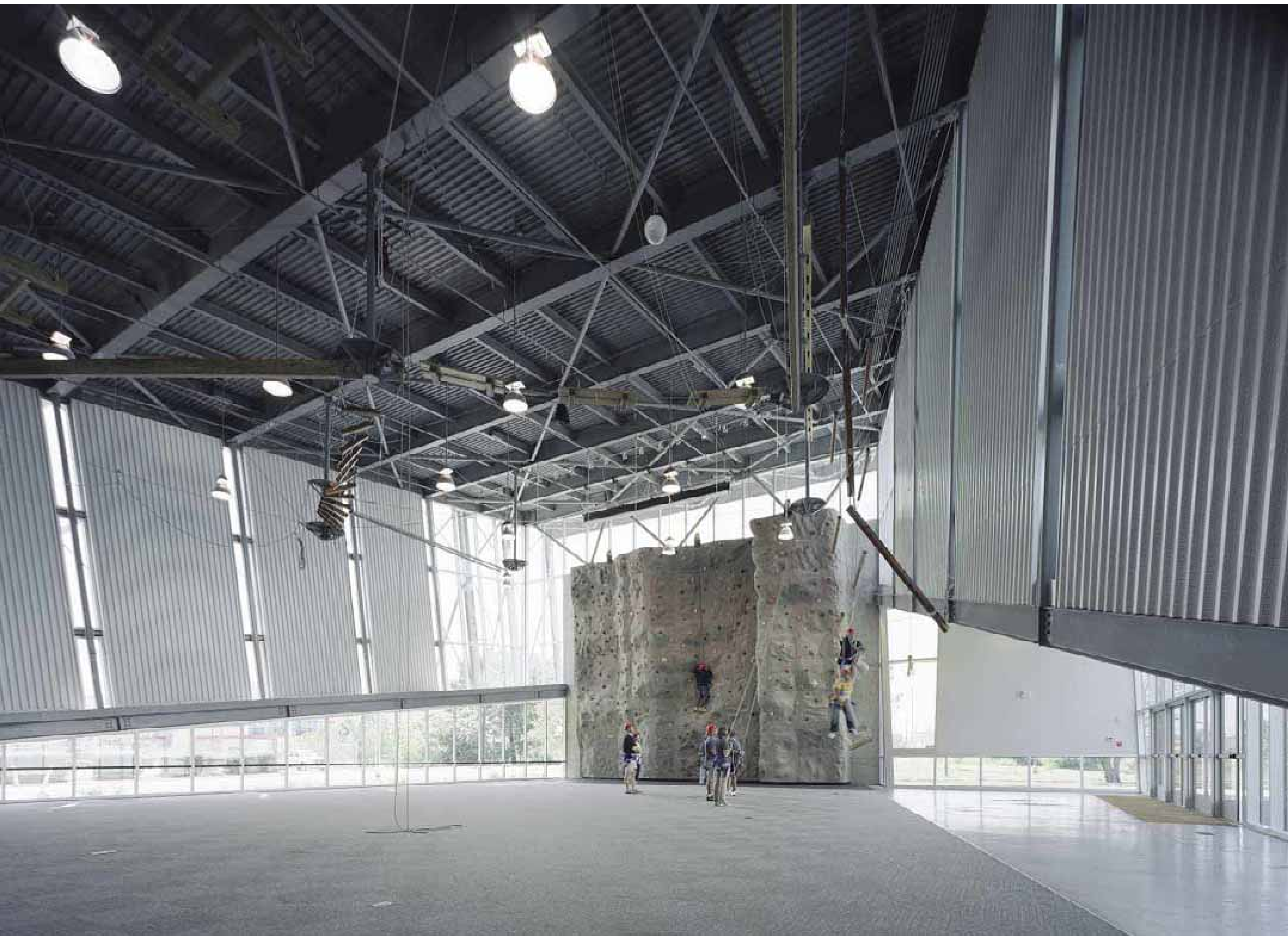


LEVEL TWO



erwise headed for the landfill. Two interior gardens and one roof garden add to the building's earth-consciousness.

While the building is a notably bold and exuberant structure, it seems perfectly at home in the neighborhood. Instead of being an intruder, it complements its surroundings, both architecturally and in other ways. Boyd says he admires how buildingstudio broke up the facade of the Fifth Street entrance, so the structure doesn't appear monumental or fortresslike. Indeed, the low-key entrance of the new facility has—in Coleman Coker's words—"its own front porch," complete with outdoor tables for casual lunches or places to relax while waiting for a ride. But just walk around the corner and head west on Auction, and the facade gradually changes, soaring dramatically and perhaps pointing the way to a new era. ■

Sources

Metal-and-glass curtain wall: *US Aluminum*

Metal roofing: *MBCI*

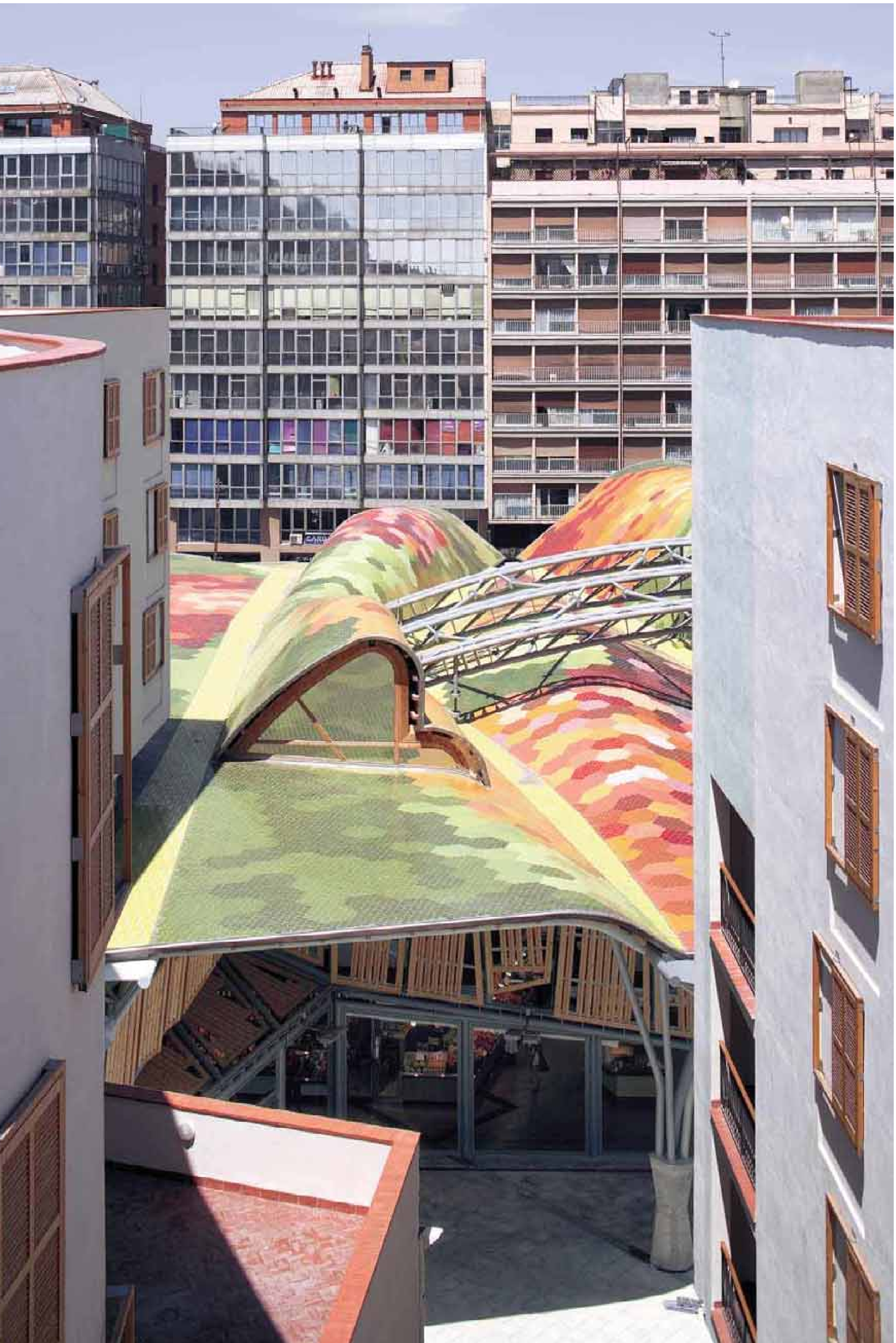
Glass glazing: *PPG Industries*

Insulated panel glazing: *Polygal USA*

Photovoltaic panels: *Sharp Electronics*

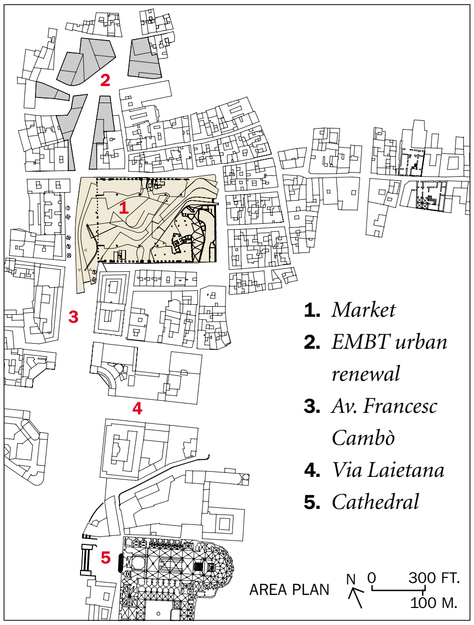
Floor and wall tile: *Dal-Tile*

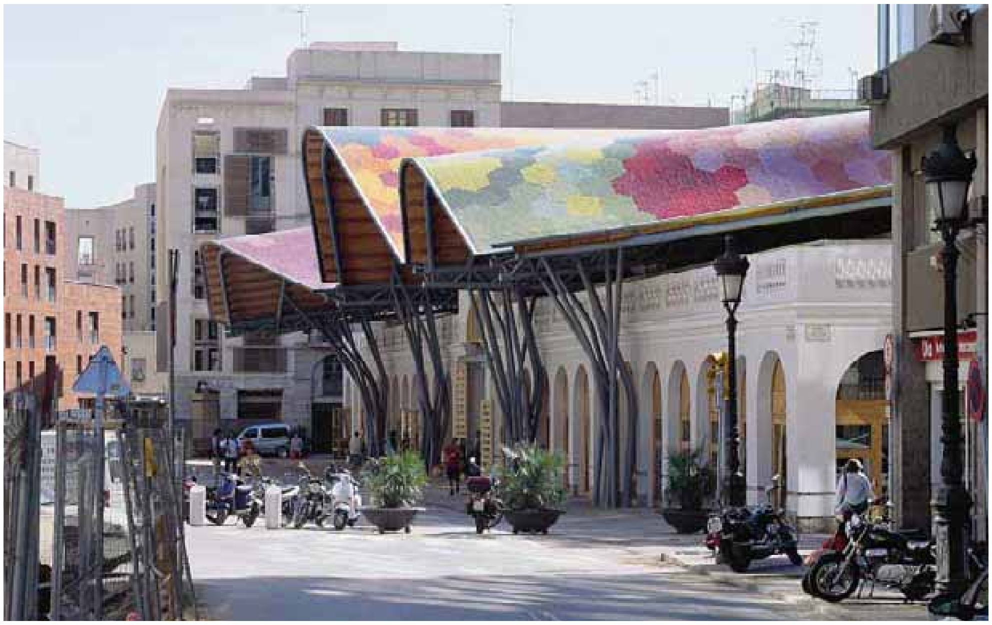
For more information on this project, go to Projects at **www.archrecord.com**.



New and renovated housing backdrops the colorful entrance side of the Santa Caterina Market (this page and opposite), beckoning visitors from as far away as Barcelona Cathedral (area plan, opposite). At the rear of the market, new, white stucco public housing (this page, foreground) nestles into the roof's undulations.

EMBT daubs an innovative urban-renewal strategy with a high-spirited riot of color in Barcelona's SANTA CATERINA MARKET





PHOTOGRAPHY: © DUCCIO MALAGAMBA

By David Cohn

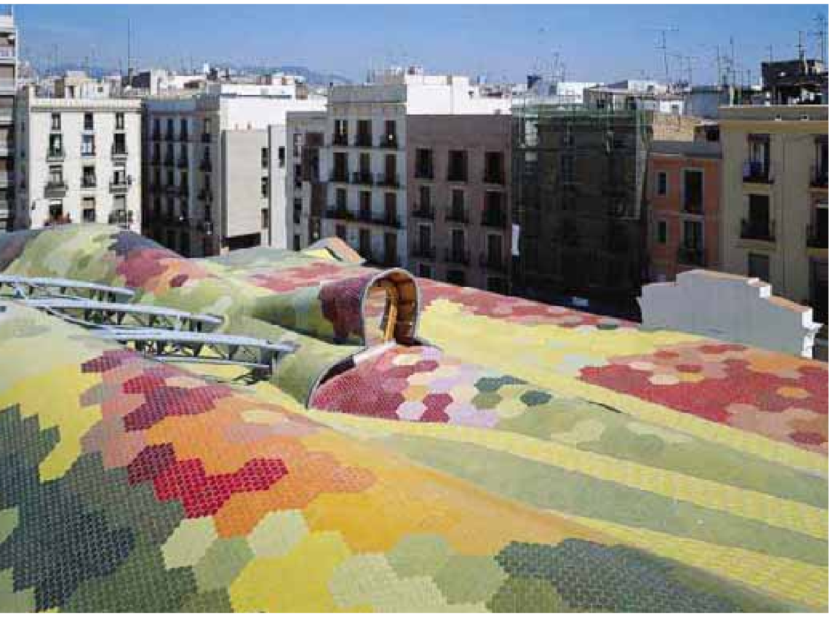
This characteristically uproarious design by Enric Miralles and Benedetta Tagliabue (EMBT) does more than transform a dour Neoclassical fresh-food market into a flying carpet of brilliant colors and agitated forms. The reconstruction of the Santa Caterina Market—and the architect's related urban renewal plan for the streets around it—bring life and light into one of the worst slums of Barcelona's Gothic Quarter.

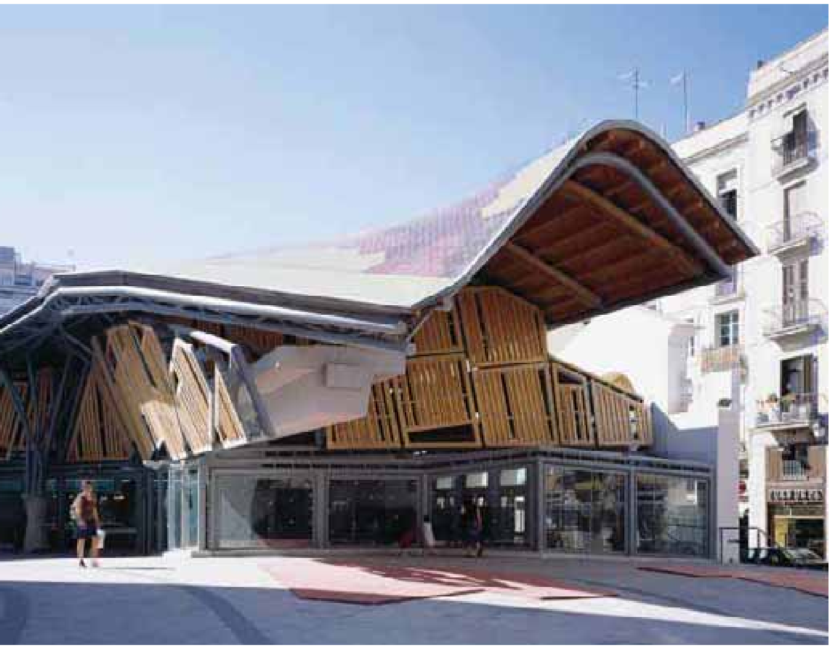
Steps away from such well-scrubbed tourist attractions as the Picasso Museum and the Ramblas, the narrow, dim streets and tiny airless courts of the inner city are notorious for their crowding, poverty, crime, and lack of open space and services. Though the blocks are gentrifying—more rapidly in some areas than in others—they have been subject to major urban renewal plans as long ago as the 19th century and as recently as the 1990s. The area around the Santa Caterina Market is central, located just three blocks from Barcelona Cathedral, which presides over the Gothic Quarter. But people didn't see a reason to cross the Via Laietana, a vehicle-thronged avenue that has split the quarter since it was cut through in an early-20th-century "renewal."

David Cohn is RECORD*'s international correspondent based in Madrid.*

Historic-center interventions in recent years, financed by European Union economic-development grants, weren't massive slum clearances but did involve large-scale demolition. In the Raval, southwest of the Gothic Quarter, new cultural institutions such as Richard Meier's Museum of Contemporary Art preside over large new plazas and widened streets. EMBT's work at Santa Caterina grew out of a critique of these efforts. As the architects explain in their project brief, "Present planning methods are incapable of addressing the complexity of the historic city. Geared for immediate results, they simplify the rules of the game to an unacceptable extreme." Tagliabue elaborated, "We tried to break with the pattern of brutal demolitions followed by rebuilding using very different typologies," she said, referring to the raw, simplistic slab-blocks typical of public housing on the periphery. These "have nothing to do with the historic architecture of the city core, with

Project: *Rehabilitation of Santa Caterina Market, Barcelona, Spain*
Owner: *Foment de Ciutat Vella S.A*
Architect: *Miralles/Tagliabue – EMBT—Enric Miralles, Benedetta Tagliabue, Igor Peraza*
Engineers: *Robert Brufau (general); Jose Maria Velasco (roof); Miquel Llorens (housing)*
General contractor: *COMSA*





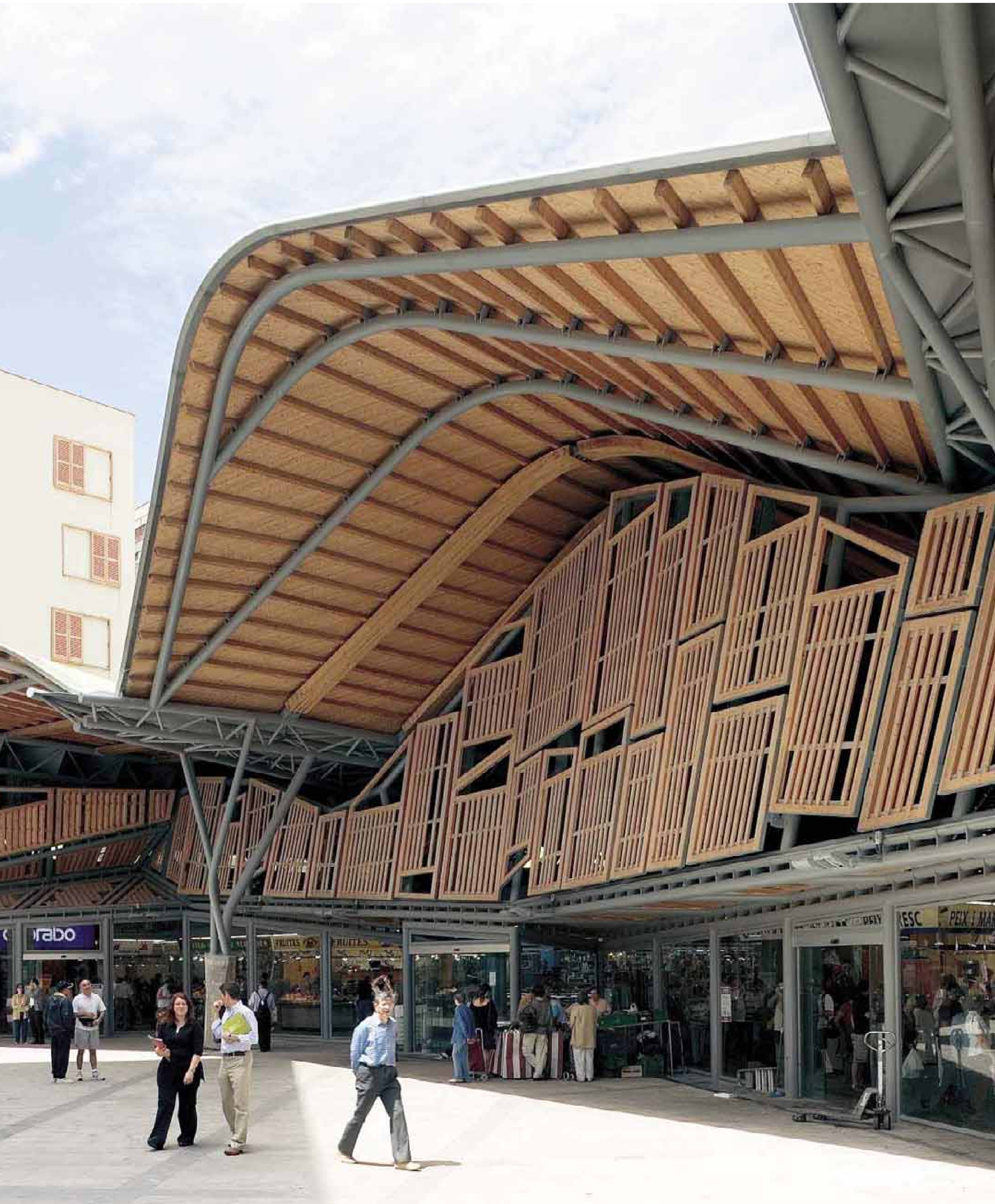
Stiffening trusses penetrate the tiled roof (top left). They carry loads to two massive concrete beams. (The cantilevered extension of one is visible at left. Glazing below the beam sheds light on preserved subterranean ruins.) The new plaza behind the market extends existing streets as a light-filled crevice (opposite), bounded by EMBT-designed public housing.

its patios and balconies."

Miralles and Tagliabue saw an opportunity in Barcelona's program to adapt declining public fresh-food markets to the changing needs and lifestyles of urban families. When city officials announced plans in the mid-1990s to replace the badly deteriorated 19th-century building that housed the market, Miralles and Tagliabue, who lived nearby, approached them with an alternative proposal, and they were officially awarded the commission in a 1997 competition.

The discovery of important archaeological remains on the site halted the project for two years, and construction had barely begun when Miralles died prematurely in 2000. Opened last May, the market is just one of a stunning series of projects begun during his lifetime that Tagliabue has seen to completion, including the Scottish Parliament, Edinburgh [RECORD, February 2005, page 98]; the campus of the University of Vigo, Spain; and an office tower for Gas Natural in Barcelona, due to be open this year.

The architects retained the white-painted masonry walls on three sides of the rectangular 1845 market structure, with many arched openings permeable to the surrounding streets. They brought the same granite pavers used on city streets in the neighborhood into the market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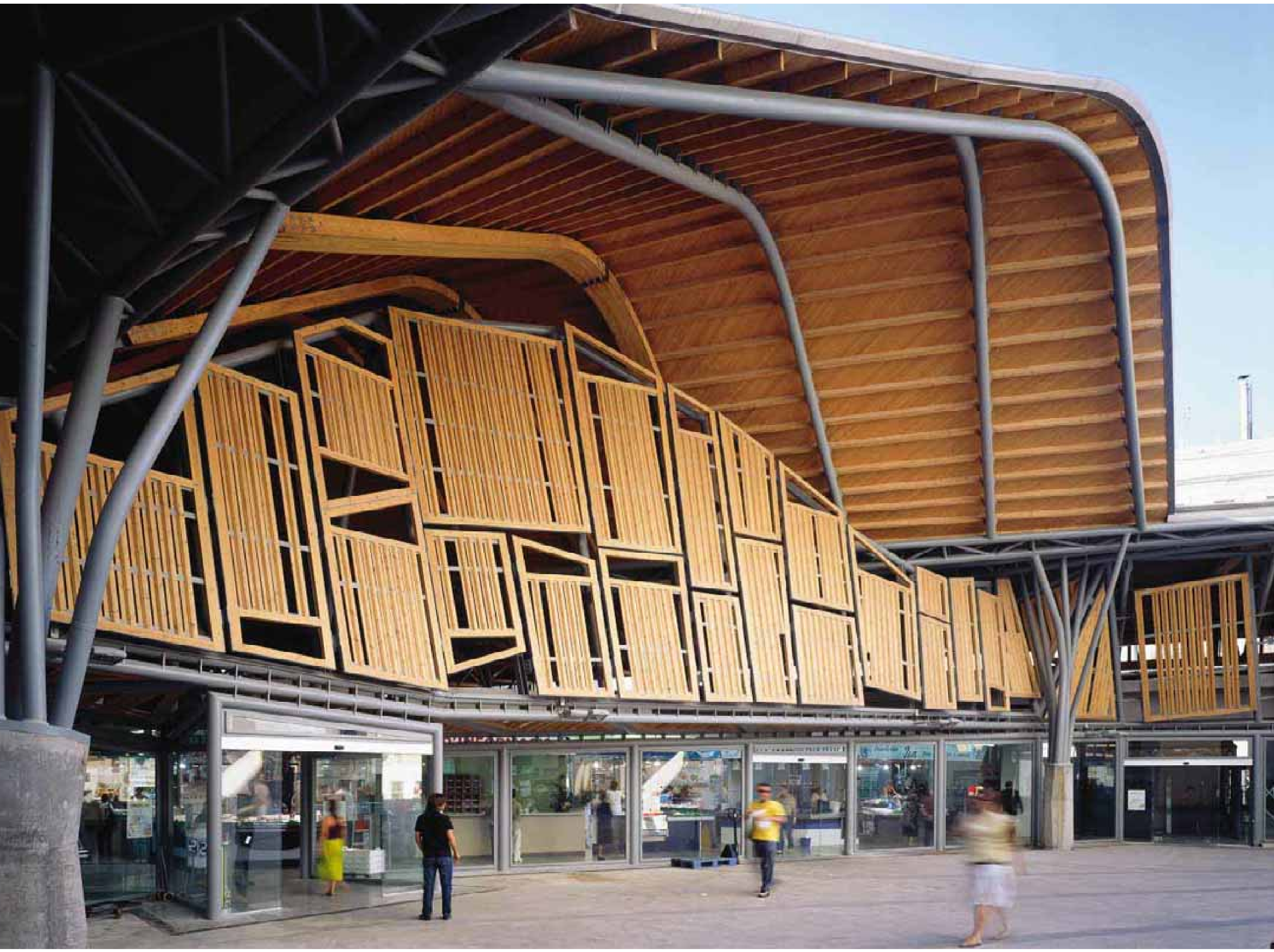


A massive glass wall (opposite and above), shaded by slatted-wood panels recalling warehouse pallets, opens the market to the rear plaza. Light slicing between EMBT's taller housing (plan, opposite) dapples its porchlike shade.

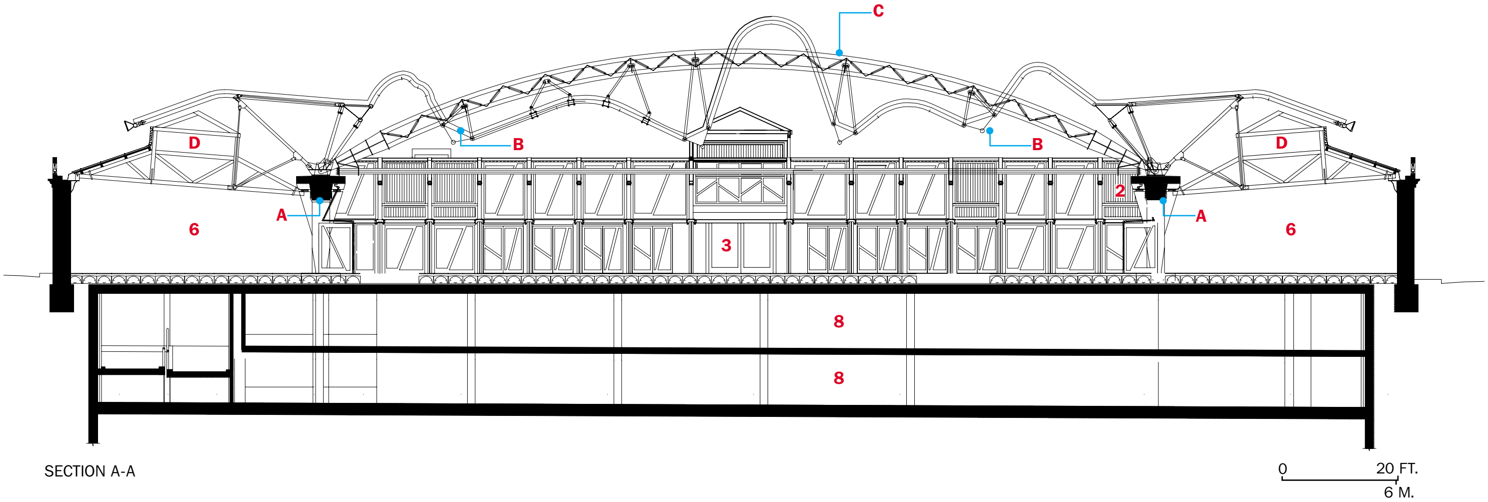
interior "so that everyone understands it's a public space," explained Tagliabue. Since the market did not need to be so large, the architects demolished the rear wall and cut in an intimate plaza. The microbial volumes of EMBT-designed housing (for elderly residents displaced by local urban-renewal work) look as if they've detached themselves from the dense surrounding blocks and floated into the market itself (plan, opposite). Urbanistically, they extend narrow existing streets as light-dappled crevices, playing off the orthogonal space within which the market sits.

Inside the market, 60 vendors' stalls mix with shops, cafés, a supermarket, a restaurant, and community services, with underground parking and a pneumatic garbage-collection system. EMBT preserved and opened to display the archaeological excavations of the medieval Convent of Santa Caterina found on the site. Overlapping the uses in the 21 million euro (U.S. $25 million) project is part of the neighborhood-revitalization calculation.

The brightly colored tile roof, visible from streets and plazas that lead to the cathedral, advertises the market like a horizontal billboard. Tagliabue explains that the roof's fluid form is meant to suggest the canvas awnings that cover patios in southern Spain, although its heavy ceramic surface belies this effect. Market stalls heaped with vegetables, fruits, seafood, meats, and other fresh products inspired the 67 colors of the hexagonal tiles.

The improbably elaborate supporting structure (section, opposite), with each layer laid perpendicular to the one below, is typical in EMBT's work. The undulating vaults change in height and profile as they run from the entry facade to the back of the block, rupturing in two places to form eyebrow clerestories. Under the tiles, three layers of thin pinewood lathing shape the curves. Joists of hand-crafted laminated wood carry roof loads to long-span, tubular-metal trusses running under the roof valleys. Three arched metal trusses cross perpendicular to the vaults, with arms extending downward to suspend the valley trusses and stiffen the vault system. The arch trusses carry loads to two massive concrete beams that run under the entire roof structure, creating a very large clear span over the market stalls.

The twisting, tree-branch metalwork that supports the vaults as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B
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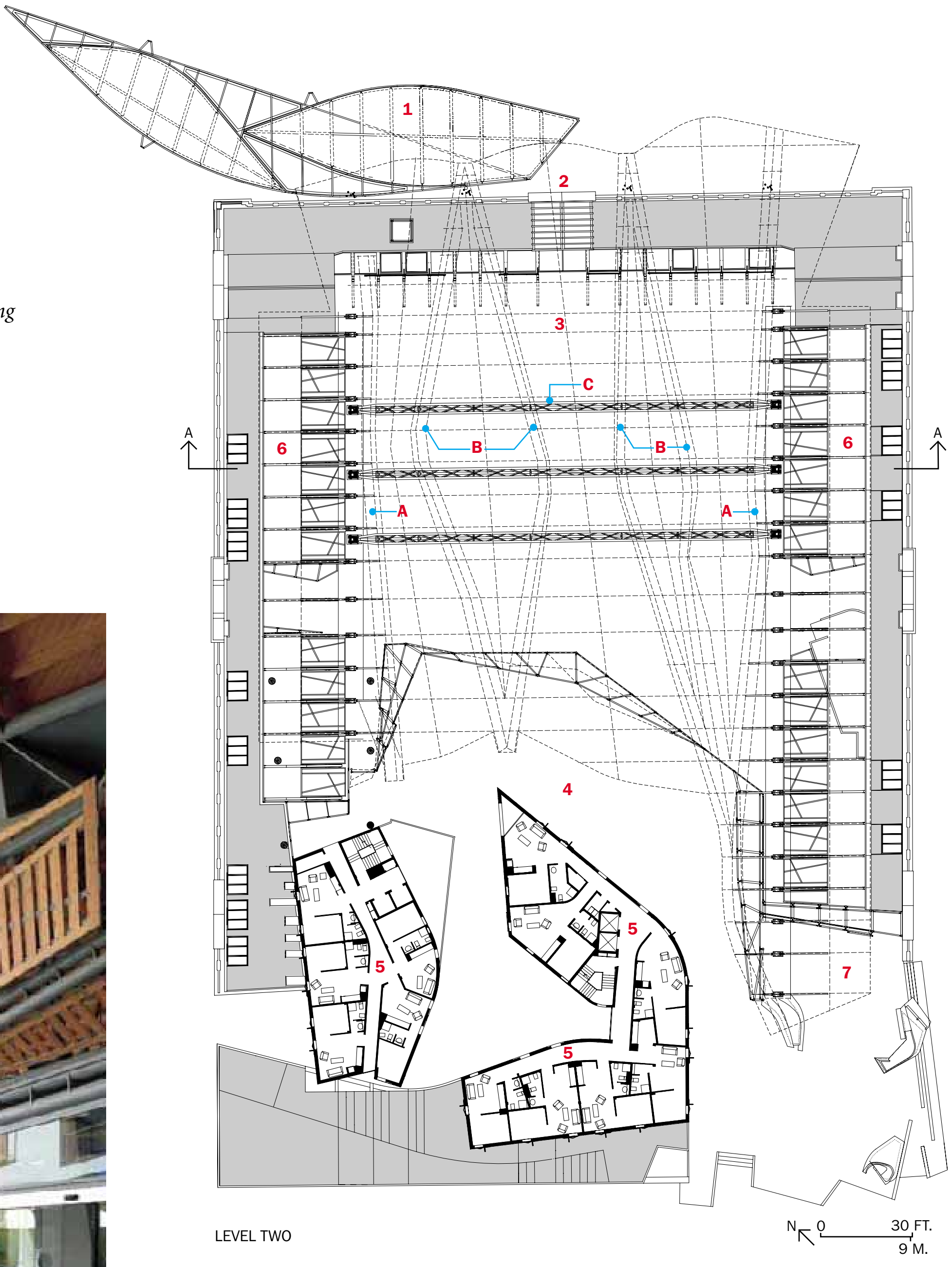
20 FT.
6 M.

SECTION A-A

1. *Street canopy (future)*
2. *Main entrance*
3. *Market stalls*
4. *Plaza*
5. *Public housing*
6. *Services*
7. *Ruins below grade*
8. *Parking*

A. *Concrete main supporting beam*
B. *Valley truss*
C. *Arch truss*
D. *Reused original framing*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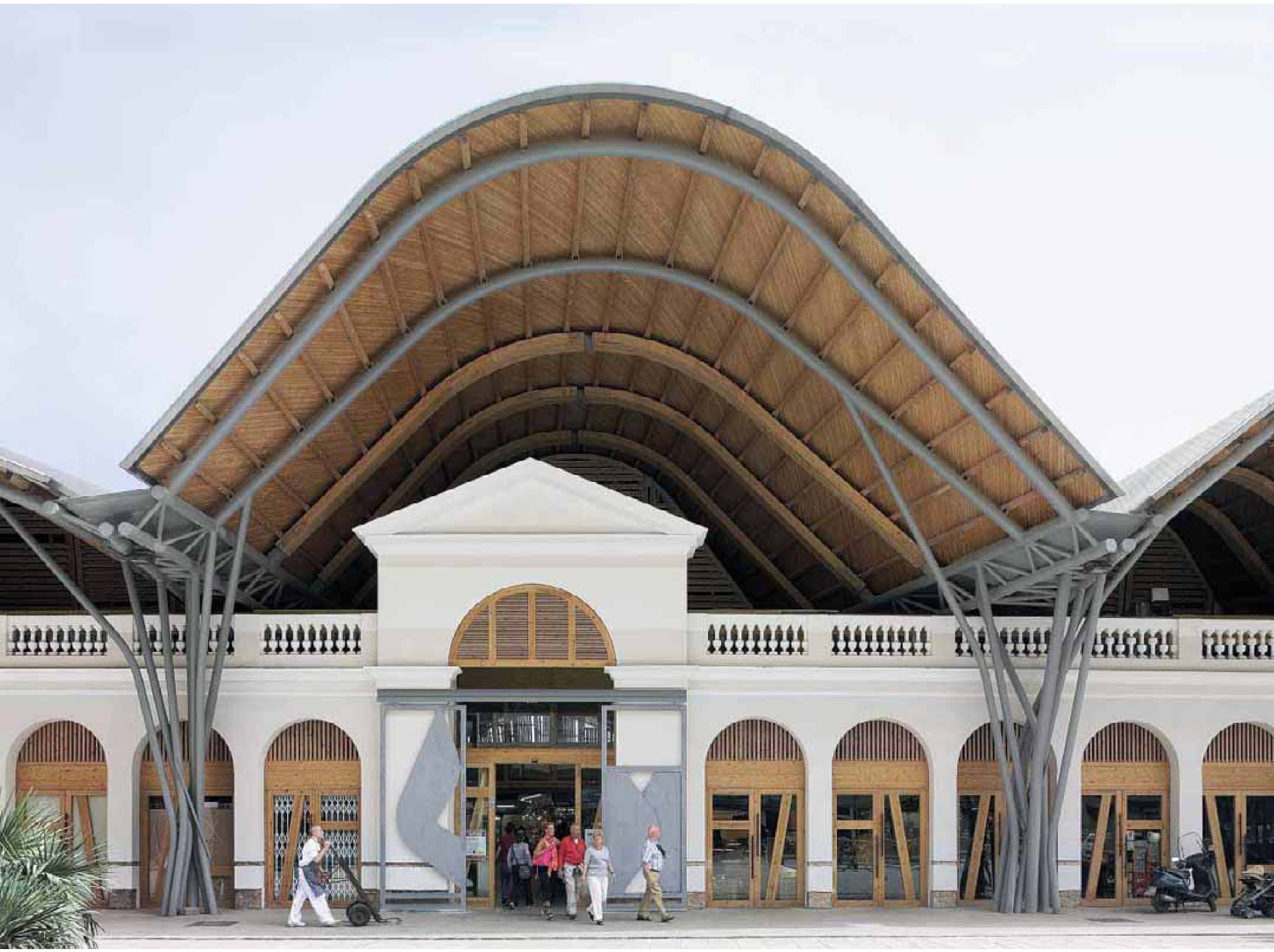
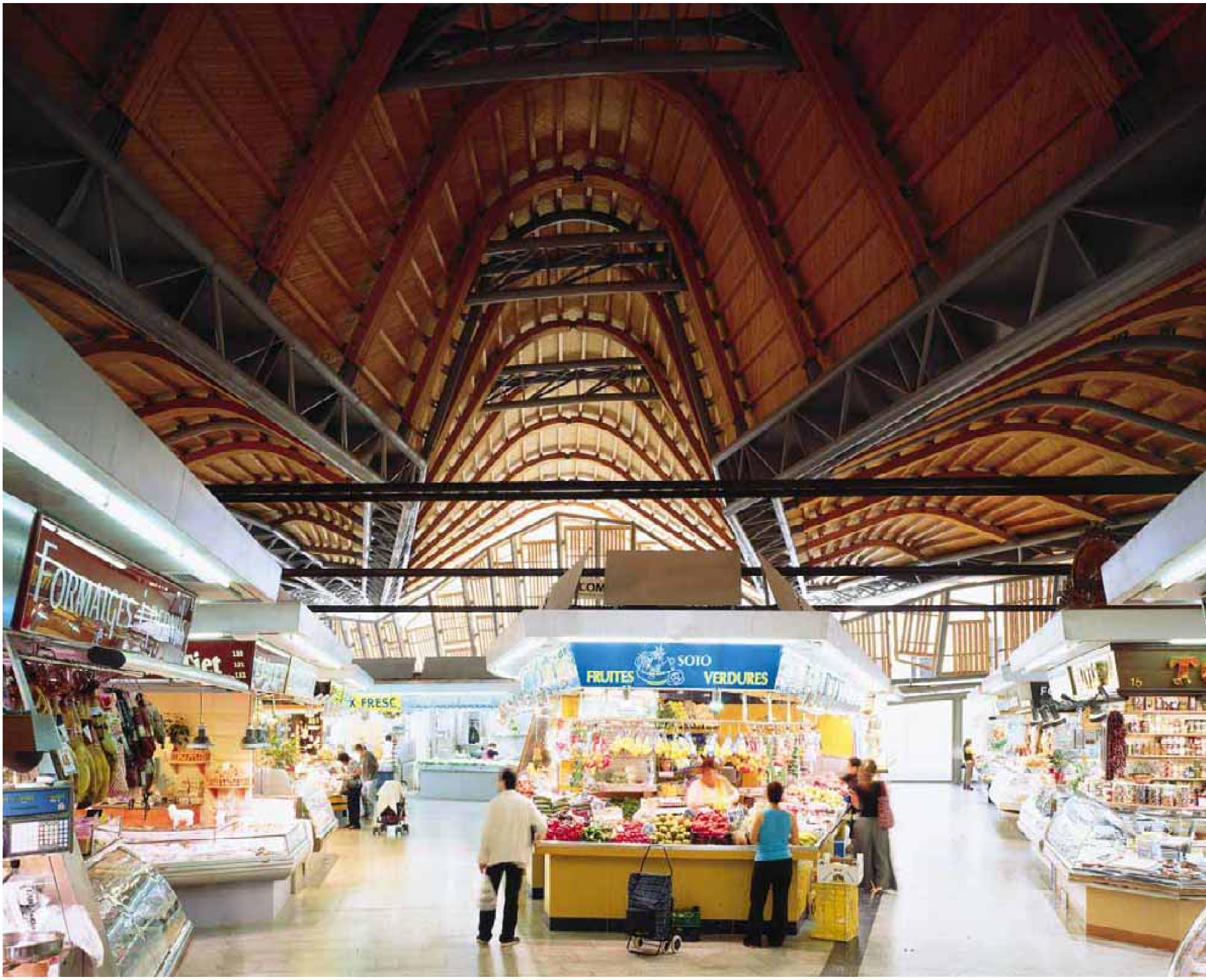
30 FT.
9 M.

LEVEL TWO



The roof extends over the market's original walls at the main entrance, facing Avenida Francesc Cambò (top) in contrast to the irregular new wall at the plaza (right). The zigzagging valley trusses and voluptuous wood-framed vaults don't distract from the brightly lit individuality of the market stalls (opposite). Some original roof framing was reused (dark members in photo at left).



they extend over the street is perhaps the most overtly "organic" gesture, but colors, textures, forms, and irregular light throughout suggest a verdant park in contrast to the tough urban setting.

Officials embraced the urban strategy EMBT proposed, which extends beyond the market and mixes existing and new construction to both preserve and reinvigorate the neighborhood's unique character. The market faces the wide Avenida Francesc Cambò, the incomplete stub of a major avenue that extends a few blocks across Via Laietana as a link to the cathedral. It was part of the massive 19th-century expansion of Barcelona, laid out by Ildefons Cerdà, that would have tied the medieval city into his famous chamfered-corner gridiron. The unbuilt part of the street, still on the books in the 1990s, contributed to the blight of buildings in its path.

EMBT's urban design narrows the avenue-to-nowhere to form a pedestrian-scaled gateway to the neighborhood beyond, framing it with new public housing that is literally supported on and extended from existing buildings. Tagliabue explains: "Building out from existing structures, you have to maintain many things, such as the height of the floors, or the consequences of one type of construction on another, that in the past could only be controlled through very elaborate legislation. Although the two buildings of the gateway were designed by different architects, they have many things in common that come from the necessity to include the existing architecture."

By strategically introducing new buildings as well as hybridizing and modifying the volumes of existing ones, EMBT surgically consolidated what had been the broken, irregular path of the unrealized avenue. In contrast to the urban-scale order that would have been imposed over the winding maze of medieval streets, EMBT selectively edited what existed. In this way, the idiosyncrasies of the area's growth over the centuries remain legible in the new, larger structures of open space that had been created by earlier demolition. As the architects explain in their brief, "The first mistake is to talk about old and new. Whatever has managed to survive into the present is current, useful, and contemporary. And it permits us to move back in time in order to continue forward." ■

Sources

Roof tiles: *Ceramicas Cumella*
Floor paving: *Galician granite*
Wood structure: *FRAPONT*
Doors: *Tecfire Doth*

For more information on this project, go to Projects at **www.archrecord.com**.

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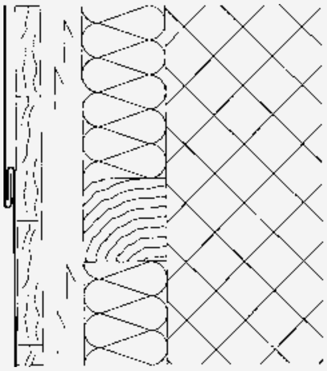

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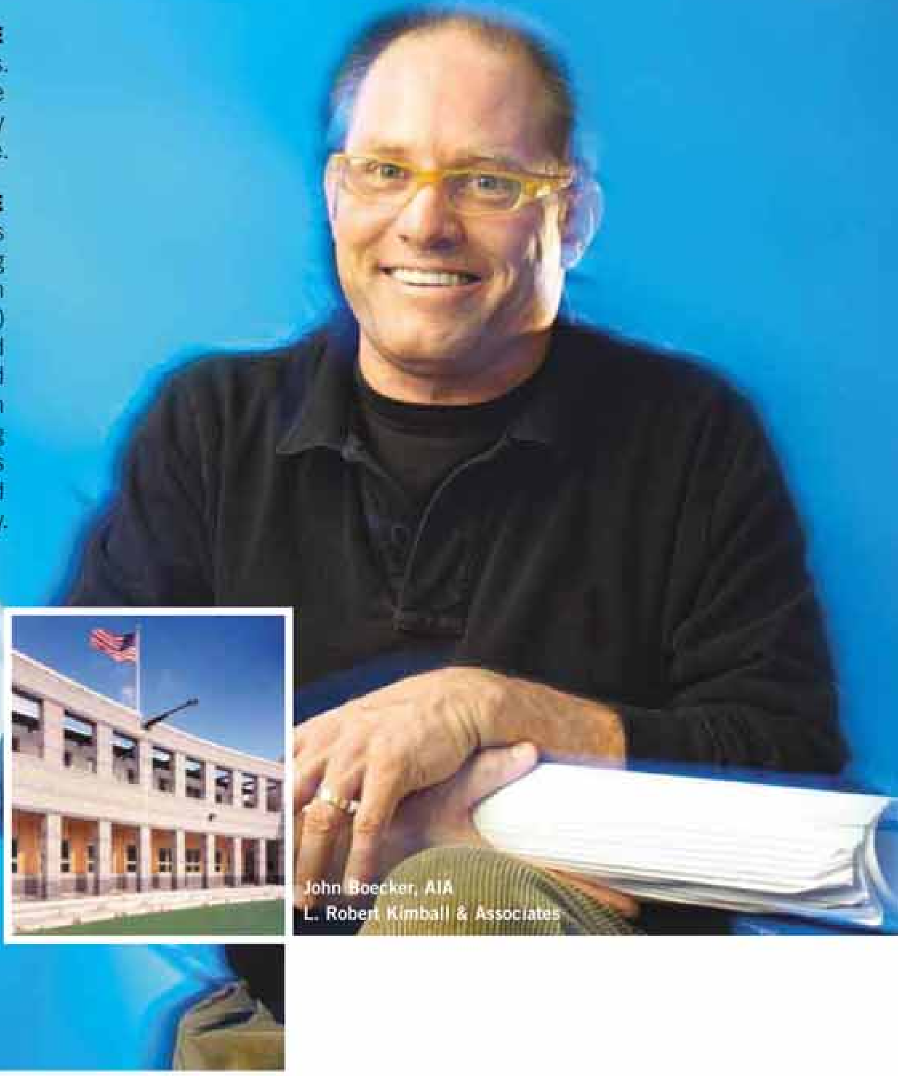

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FOUR MID-RISE, MULTIFAMILY HOUSING PROJECTS SHOW THAT HIGH DENSITY, LOW BUDGETS, AND DIFFICULT SITES CAN BE OPPORTUNITIES FOR GOOD DESIGN, NOT OBSTACLES.

1.

San Francisco, California

David Baker + Partners lends a helping hand to struggling immigrant families living in the Tenderloin district.

2.

Judenburg, Austria

Mack Architects' high-density subsidized housing pays a whimsical tribute to color while using prefabricated components and modest building materials.

3.

Philadelphia, Pennsylvania

With this project, Onion Flats takes its imaginative design approach beyond the drawing board, going on-site to build the property.

4.

San Diego, California

Jonathan Segal Architects invigorates the urban landscape of a San Diego neighborhood with a Modern nine-unit housing complex.

For more information on these projects, go to Building Types Study at **www.archrecord.com**.

PHOTOGRAPHY: © BRIAN ROSE (1); MANFRED SEIDL/ARCHFOTO (2); DON WESTON (3); PAUL BODY (4)

By Jane F. Kolleeny

Following strong growth over the past decade, housing starts will ease off in 2006 to the same level as 2004, according to forecasts of the National Association of Home Builders (NAHB). While this puts the brake on housing construction's rapid pace in recent years, the overall message is positive, and the level of building is considered historically healthy.

During this year's slowdown, multifamily and affordable housing will both do well, says NAHB chief economist David Seiders. Of this activity, infill development—projects on small land parcels close to urban centers—will account for a larger percentage than before, says AIA's chief economist Kermit Baker. With developable land dwindling and the population growing in major urban centers of the U.S., this trend is no surprise. It sets the stage for interesting architectural solutions for buildings that occupy lots deemed difficult until now: peripheral areas or locations in downtrodden or abandoned neighborhoods.

Featured here are four mid-rise, multifamily housing projects. Instead of perpetuating sprawl, these projects offer attractive alternatives to the unchecked development of single-family communities. All of these projects embody a socially responsible approach to design, either by virtue of their use of sustainable technologies or by responding to the needs of low-income residents. Each project expresses a modern sensibility, often working within a modest budget.

Rag Flats, by the firm Onion Flats, brings new life to a blue-collar neighborhood in Philadelphia, transforming an old rag factory into a residential garden community that, among other things, offers a novel interpretation of the Philadelphia "Trinity" row house. For 22 units of subsidized housing at Judenburg West in Austria, Mack Architects used prefabricated panels made of cloth and wood for walls, floors, and colorful clip-on balconies. K Lofts in San Diego, by Jonathan Segal, shows how a Modern nine-unit development on an abandoned lot in a neighborhood of historic houses and apartment buildings can break with convention without diminishing context. At Curran House, set in San Francisco's rugged Tenderloin neighborhood, David Baker brings a spark of hope to a block of aging apartment buildings while housing a group of Asian immigrant families.

In its Home Design Trends Survey (www.aia.org/release_111705_HDTSQ3), the AIA notes that the slowing of home purchases anticipated for 2006 is due in large part to the increasingly high cost of owning a home. This month, we present examples of housing meant for the moderate- and low-income populations marginalized by this trend. ■

Curran House
San Francisco, California

1

DAVID BAKER CREATES AN OASIS FOR FAMILY LIFE IN A DISTRICT KNOWN FOR BEING INHOSPITABLE.

By John King

Architect: *David Baker + Partners, Architects—David Baker, FAIA, partner; Peter MacKenzie AIA, project architect; Bradley Sugarman AIA, designer; Michelle Peckham, interiors*
Associate architects: *Gelfand RNP Architects*
Client: *Tenderloin Neighborhood Development Corporation*
Engineers: *Pete O. Lapid + Associates (electrical); Structural Design Engineers (structural); Tommy Siu + Associates (mechanical)*
Consultants: *Andrea Cochran Landscape Architects (landscape); Wilson Ihrig + Associates (acoustical); Shift Design Studio (color)*
General contractor: *Cahill Contractors*

Size: *83,690 square feet*
Cost: *$15 million*
Completion date: *2005*

Sources
Curtain wall/windows: *EFCO*
Roofing: *Siplast*
Glazing: *Pulp Studios*
Doors: *US Aluminum; Haley Door*
Locksets: *Schlage*
Closers: *LCN*
Elevators: *Kone*
Glazing: *Pulp Studios*

For more information on this project, go to Building Types Study at **www.archrecord.com**.

Jammed with weary-looking buildings along blocks of drug dealers doing business, San Francisco's Tenderloin isn't a neighborhood where you'd expect to find children. But large numbers of Asian immigrant families now live there, drawn by proximity to the downtown shops and restaurants where many newcomers find work.

Program

In 2001, when the Tenderloin Neighborhood Development Corporation (TNDC) had a chance to build housing from the ground up, the nonprofit, which manages 1,600 apartments in 21 buildings, knew the population it should serve. "There are 4,000 children in the Tenderloin," explained Donald Falk, TNDC's executive director. "There's a tremendous demand for family housing, and very little exists."

Curran House, a 67-unit complex where 38 apartments have two or three bedrooms, opened in 2005. It rises from a lot that's long and relatively shallow, wedged between aged apartment buildings on three sides. Zoning set the height of one side of the lot at 85 feet and the other at 120 feet, with a 20-foot setback from the street at the sixth floor. Parking spaces were required despite proximity to subway and bus lines.

"This is the hardest floor plan we've ever done—a Rubik's Cube puzzle where we had this volume and had to slide the units in," said Curran House architect David Baker, FAIA, who has made a specialty of high-density and often low-cost housing.

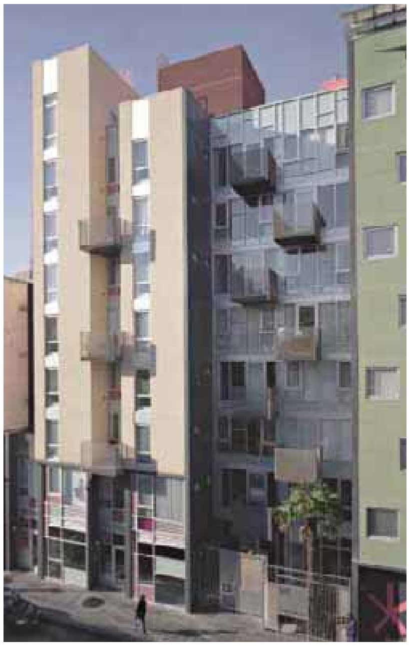
John King is the urban design critic for the San Francisco Chronicle.

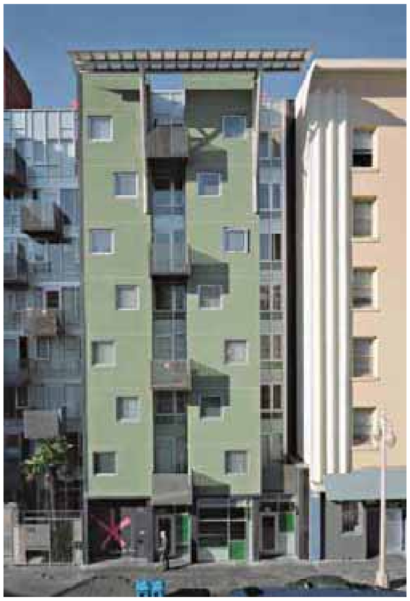
Solution

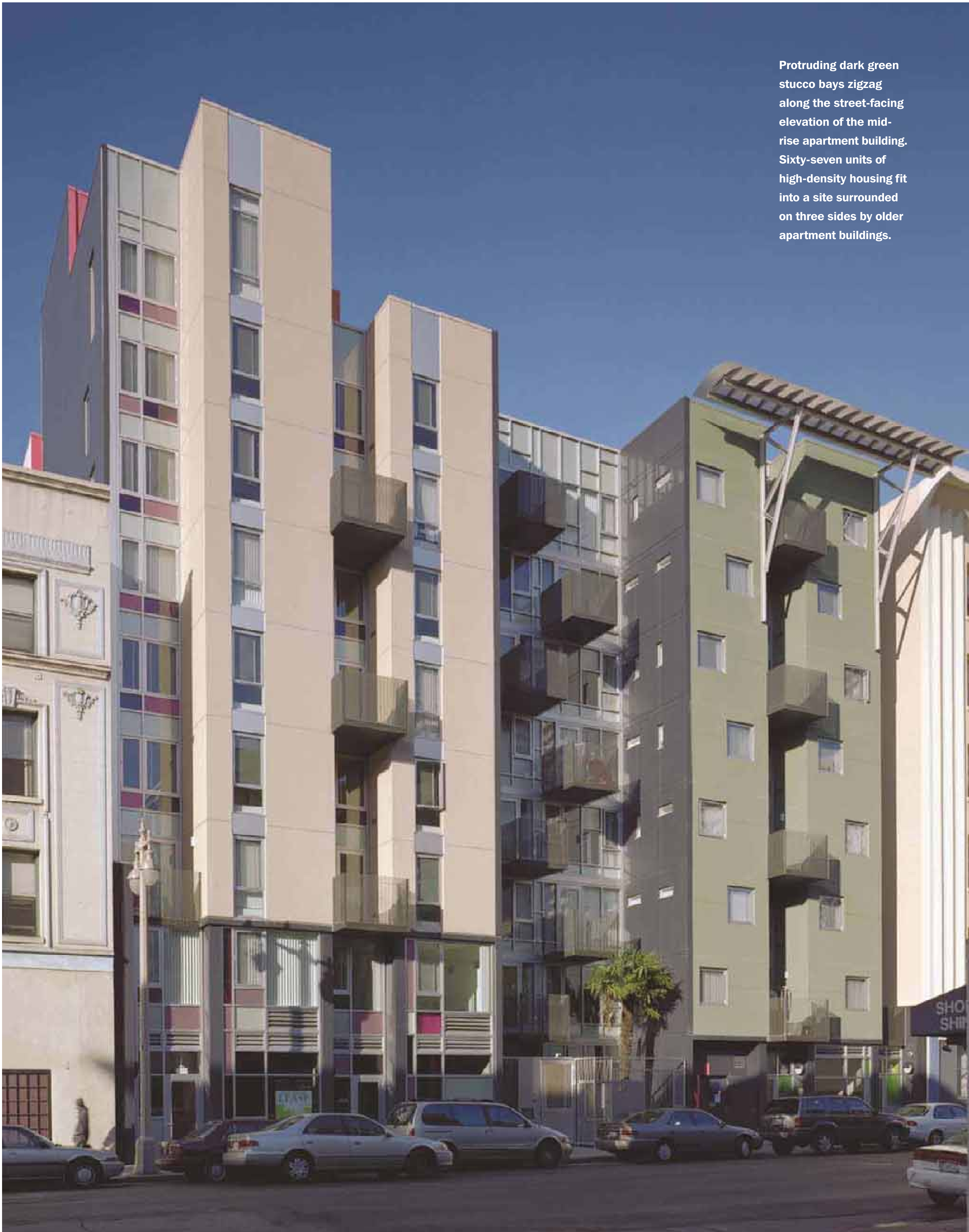
Baker's first move to solve the puzzle came when he convinced city planners to waive the upper-floor setback requirement, allowing the space to be used in vertical notches running the length of the building. The central bay, for instance, was pulled back 12 feet to allow for an entry plaza with a palm tree. He also won a variance to eliminate the parking, allowing two small storefronts and a basement office for TNDC to fill the space. The recessed bays add literal relief to the block's tight wall of mid-rise structures.

From the street, Curran House resembles a three-dimensional collage. Along the sidewalk on the north side, protruding bays are cloaked in dark green stucco punctuated by square windows in a zigzag pattern, while the south side has vertical strips of yellow stucco. For extra variety (and extra space), balconies pop out from 20 of the apartments.

The clean lines of the building aren't just for show: They work with the building's column and sheer walls to define efficiently laid-out, family-size units. Indeed, for all the intricacy of a plan that results in 223 units per acre, the apartments themselves feel relaxed; the two-bedroom apartments are 1,050 square feet,



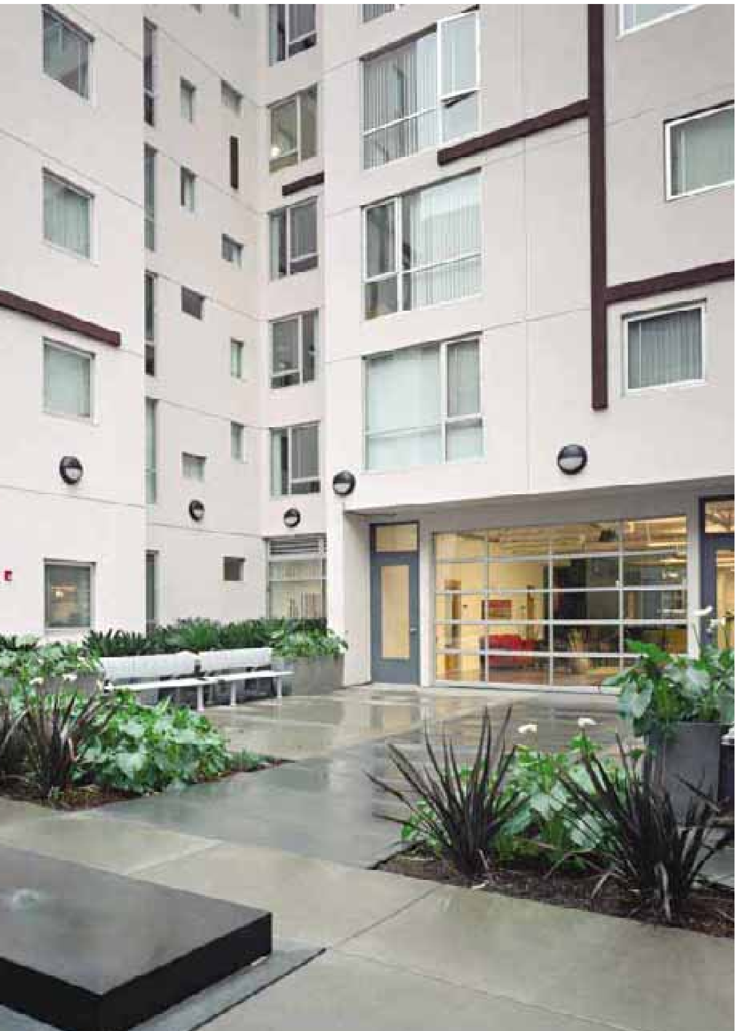




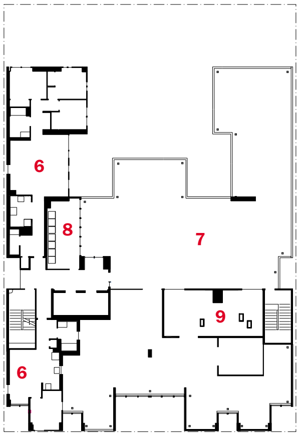
Protruding dark green stucco bays zigzag along the street-facing elevation of the mid-rise apartment building. Sixty-seven units of high-density housing fit into a site surrounded on three sides by older apartment buildings.

PHOTOGRAPHY: © BRIAN ROSE, EXCEPT AS NOTED

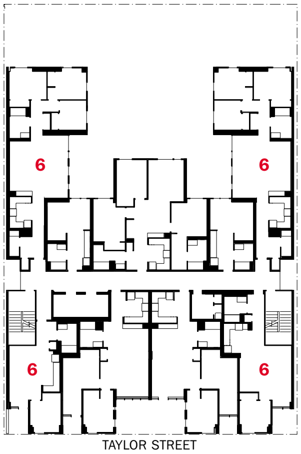
Incredible But True



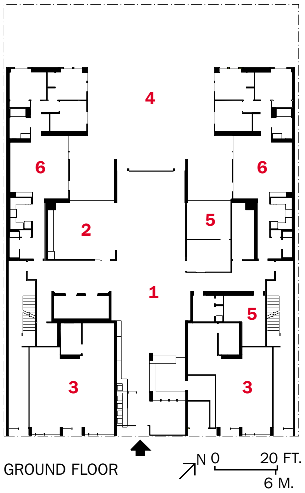
1. *Lobby*
2. *Community room*
3. *Retail*
4. *Garden*
5. *Social services*
6. *Units*
7. *Roof terrace/ community garden*
8. *Laundry room*
9. *Utility*



TOP LEVEL



APARTMENT FLOOR



GROUND FLOOR

with extensive closet space in the master bedroom, as well as storage cabinets tucked between the kitchen and the living room.

Though fairly plain, the apartments have small touches that set Curran House apart from the subsidized norm. One or two panes of glass in each unit are translucent, or tinted red or green—not enough to seem lurid, but just enough to add visual texture. And recycled ingredients were used wherever possible, such as linoleum corridor floors made of linseed and sawdust.

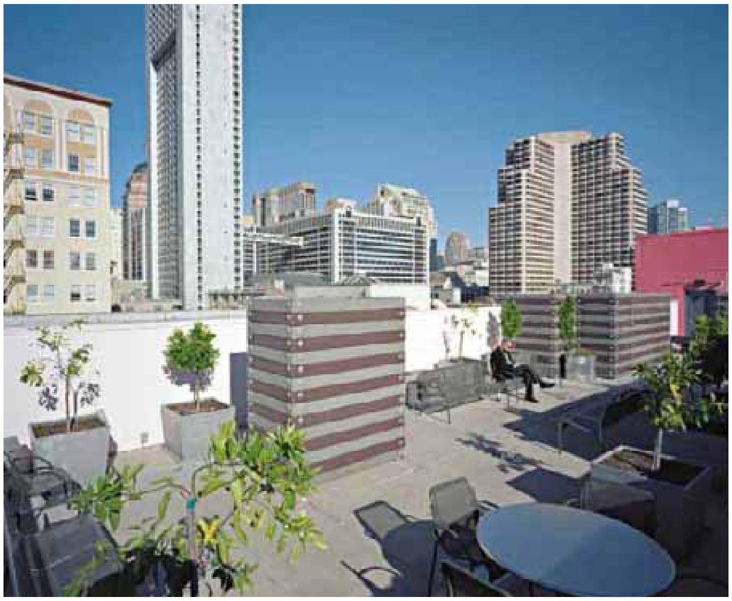
The biggest surprise of the project is its significant amount of open space—a distinct rarity in the dense Tenderloin. The broad lobby with stained concrete floors has a rear glass wall, which rolls up like a garage door to a courtyard designed by Andrea Cochrane that includes a shallow fountain and extensive landscaping. "Residents should have space that's calming and life-supporting, because it's really harsh out there," Baker said, referring to the often-edgy Tenderloin scene. Baker also stressed that such landscaping, on a tight budget, wouldn't be possible atop an underground garage. The dirt would be too shallow, restricting the greenery to potted plants. He called the trade-off an example of "putting the quality of life over quality of parking."

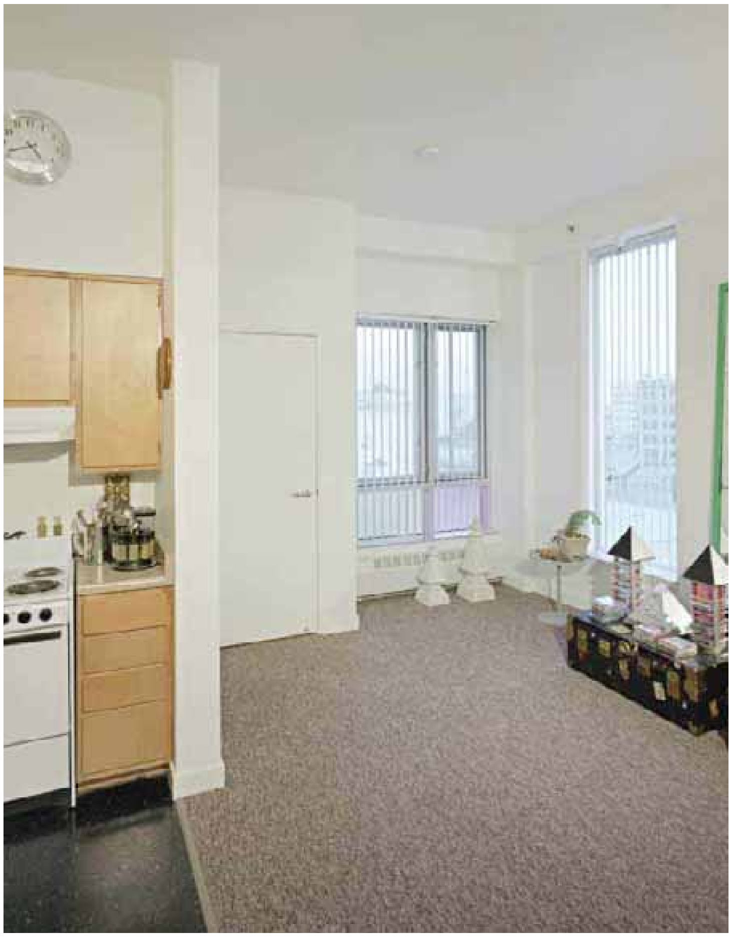
There's a roof deck as well, which Baker pulled into the daily life of the residents with two quite different functions: a glassed-in laundry room dubbed "the penthouse," which runs along the south edge of the building, and 12 deep metal tubs large enough to accommodate family gardens.

Commentary

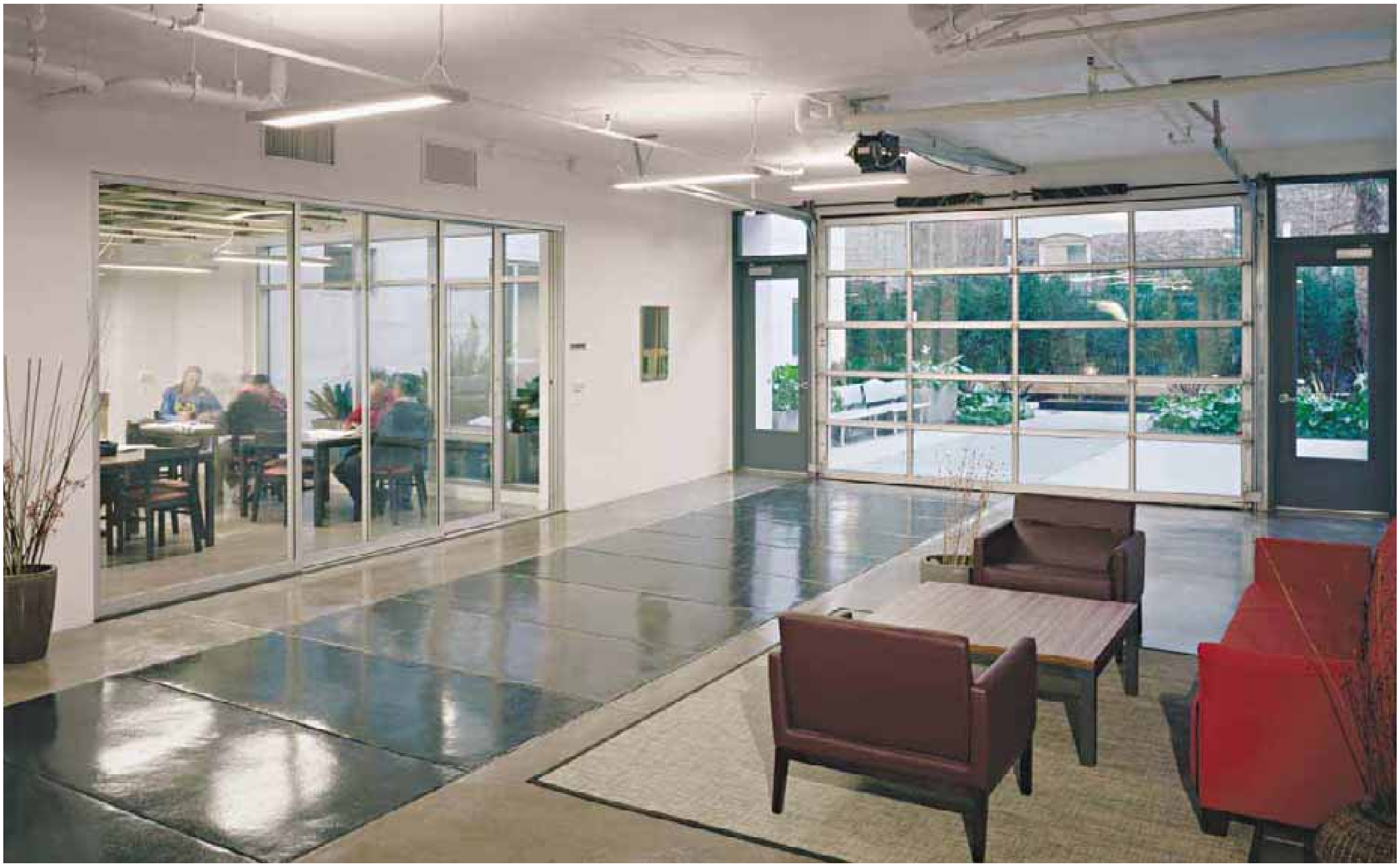
Viewed strictly in terms of design, Curran House adds syncopation and color to a neighborhood where too many blocks are marked by a grim monotony. But the most impressive accomplishment is the gracious humanity once you step inside. Curran House sends the message that families should live in buildings that offer a sense of comfort and respect—regardless of income. ■

PHOTOGRAPHY: © DAVID BAKER (TOP)





The project provides abundant green space for its residents—a rooftop garden (above) and a courtyard in the rear, accessed through a rolling glass garage door (below and opposite, bottom). As well, a whimsical entry, stained concrete floors, and Modern interior elements provide an appealing respite from the city hubbub (below and opposite, top). Apartments are simple and modest (right).



Judenburg West Housing
Judenburg, Austria

2

MACK ARCHITECTS USES PREFAB COMPONENTS TO CREATE COLORFULLY BEJEWELED SUBSIDIZED HOUSING UNITS IN A SMALL AUSTRIAN TOWN.

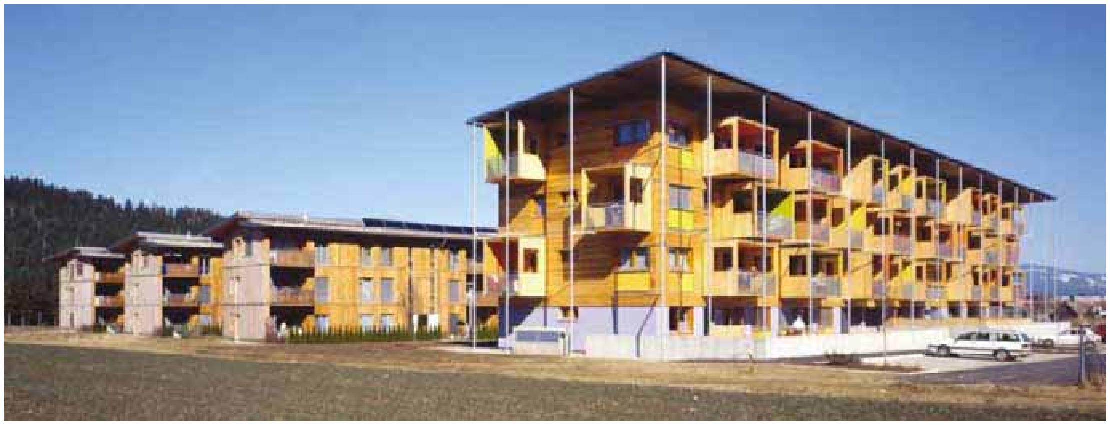
By Liane Lefaivre

Architect: *Mack Architects—Mark Mack, principal; Arial Asken, design*
Architect of record: *Roland Hagmüller, Vienna*
Client: *Ennstal, Wohnbau Genossenschaft*
Engineer: *D.I. Johann Riebenbauer; D.I. Wolfgang Hebenstreit (structural)*
General contractor: *Liebbau Weiz*

Size: *21,000 square feet*
Cost: *$2.3 million*
Completion date: *1999*

Sources
Prefabricated structural system: *KLH Massivholz GmbH*
Wood: *KLH Massivholz GmbH*
Metal roofing: *Kalzip; Corus Bausysteme*

For more information on this project, go to Building Types Study at **www.archrecord.com**.



PHOTOGRAPHY: © MANFRED SEIDL/ARCHFOTO

If you thought Mark Mack's Southern California buildings were polychromatic because of some local Latino influence, you would be right—but only partly. Mack hails from Austria, which unlike its neighbor Switzerland, has an architecture that historically is as colorful as any in the world. Train stations, churches, castles, schools, factories, hotels, concert halls, houses, apartment buildings—you name it—all come in hues of dusty pink, mint green, burnt orange, pale sienna, baby blue, and cobalt. Even the plastic sheeting used for wrapping bales of hay in the snowy fields outside of Judenburg are an exquisitely pale turquoise.

Unlike Modernists from the 1920s and 1930s, such as Bruno Taut, Le Corbusier, Gerrit Rietveld, and Theo van Doesburg, Mack doesn't have a highfalutin theory to go along with his choice of colors. He admits, "There is no academic backing to this. I just think everyday life is full of color and multivalent. And this, the vernacular of real people in the real world, is a quality I give to my architecture." He applies this approach to all his projects, whether in Los Angeles or Austria.

Liane Lefaivre is the chair of Architectural History and Theory at the University of Applied Arts in Vienna. Her latest book, with Alexander Tzonis, is Critical Regionalism *(Munich: Prestel, 2004).*

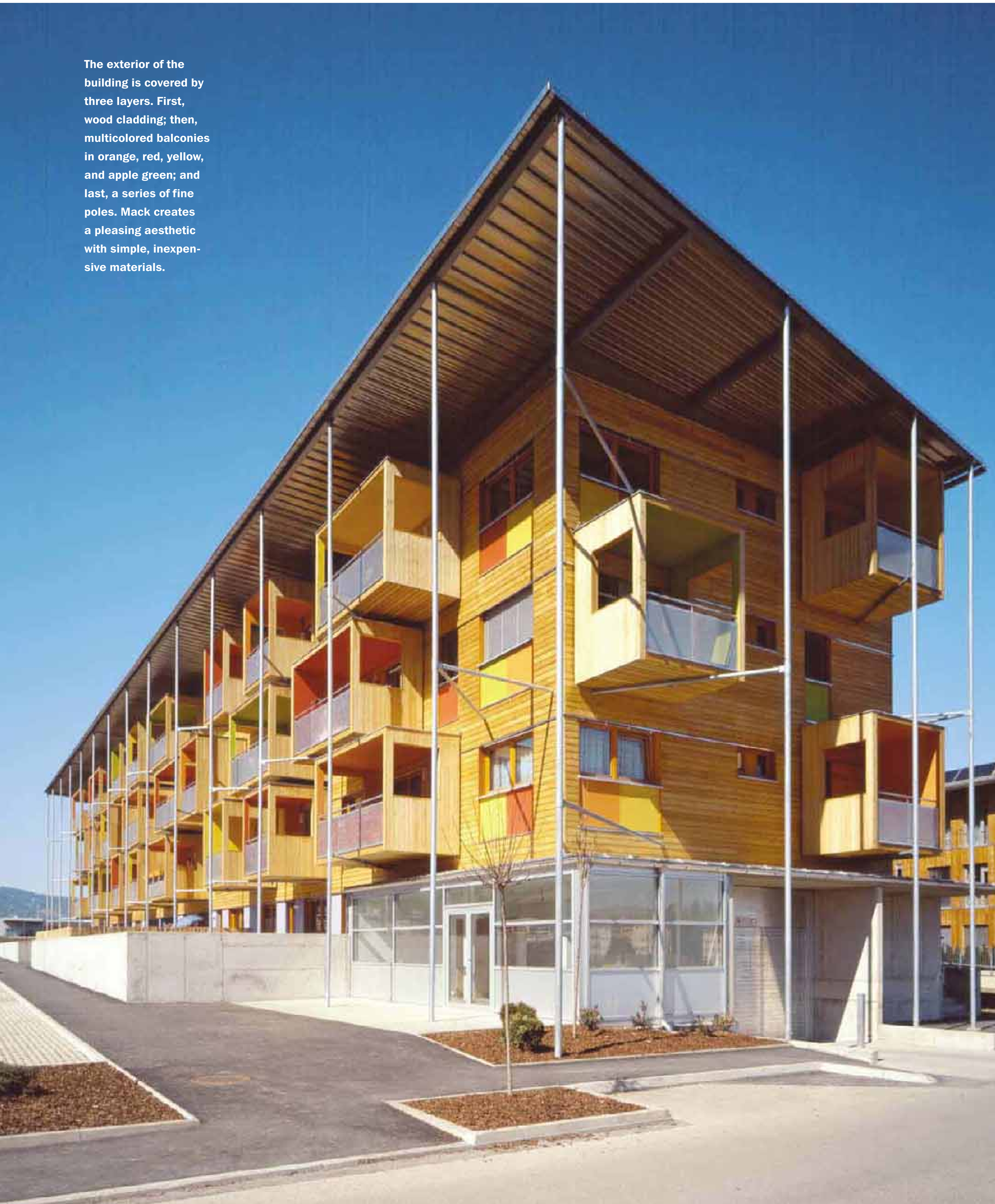
Program

About three hours from Vienna by train, near the center of Austria, Judenburg is a small, 13th-century hill town that boasts one colorful building after another. It happens to be Mack's hometown. As its economy has grown, Judenburg has expanded beyond its historic core, and the area to the north has emerged as a location for low-cost social housing.

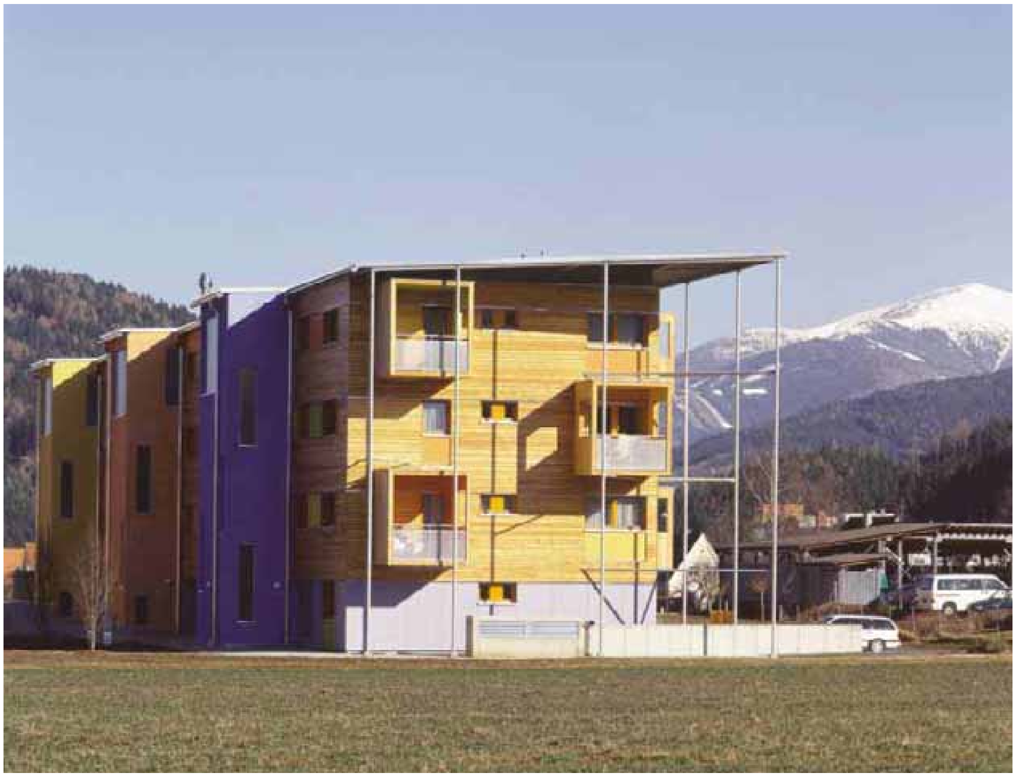
In Austria, social housing operates on a lease-to-buy system, in which the state subsidizes rents, then allows tenants to buy their apartments at low prices after 10 years. The system not only creates affordable housing, but establishes an incentive for occupants to invest in their buildings. The city of Judenburg and the state of Styria sponsored a competition that Mack won for the master plan to develop 600 units of housing and the infrastructure to support it. The client, a nonprofit housing provider, hired Mack to design Judenburg West—a 22-unit, four-story building.

Solution

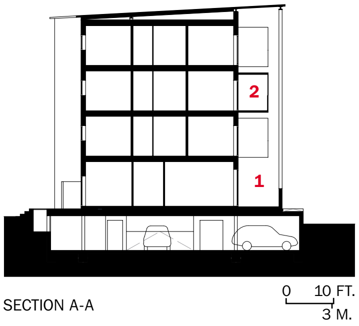
For his local collaborator, Mack chose Roland Hagmüller, who was a friend from his days at the Universität der Bildende Künste in Vienna. That was in the exuberant Pop Sixties, when the rebellious antics of designers such as Hans Hollein, Walter Pichler, Haus-Rucker-Co, and Coop



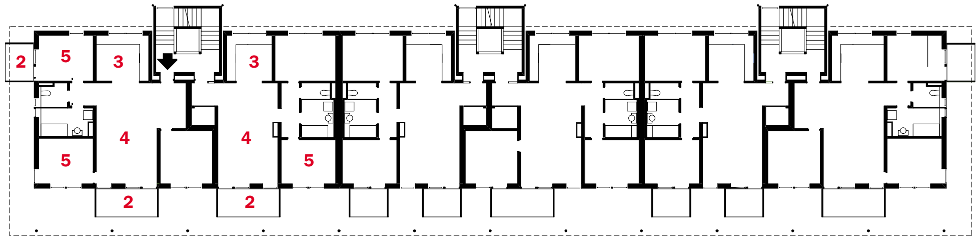
The exterior of the building is covered by three layers. First, wood cladding; then, multicolored balconies in orange, red, yellow, and apple green; and last, a series of fine poles. Mack creates a pleasing aesthetic with simple, inexpensive materials.



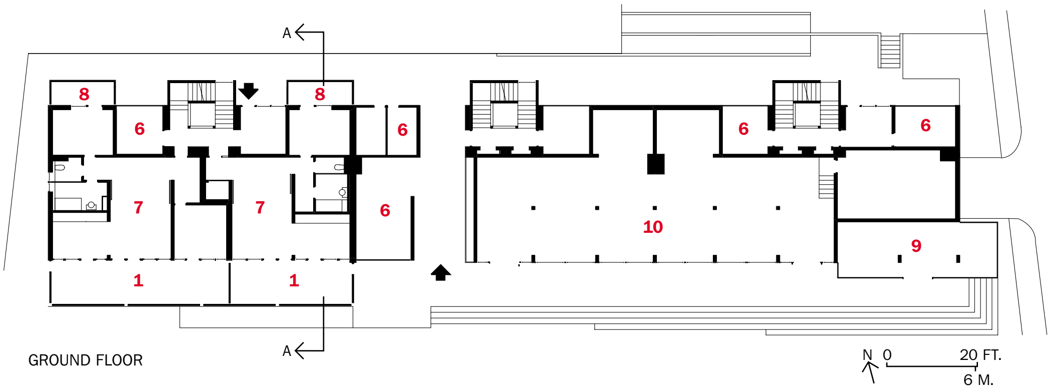
1. *Front garden*
2. *Balcony*
3. *Kitchen/dining*
4. *Living room*
5. *Bedroom*
6. *Storage*
7. *Ground-floor unit*
8. *Back garden*
9. *Commercial*
10. *Flex space*



SECTION A-A



SECOND-FOURTH FLOOR



GROUND FLOOR

Himmelb(l)au set the tone.

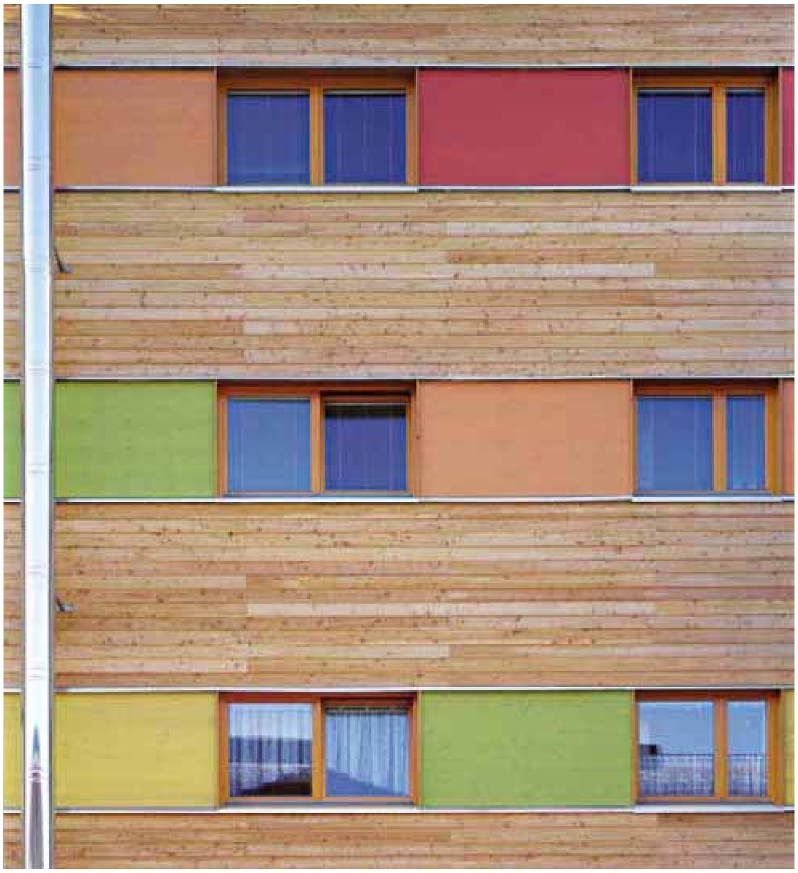
Carrying on the irreverent tone of the ’60s, Hagmüller describes Judenburg West as a “Big Mac” with a street-level concrete garage serving as the bottom “bun” and a lightweight zinc canopy on top. In between, a wood-framed structure contains the apartments, which range from two-to-four-bedroom units. For floors and walls, the architects used prefabricated, cloth-laminated panels made from a strong evergreen wood, a material called KHL (Kreuzlagenholtz) that was developed by a Judenburg factory. The walls themselves are sandwiches made of a layer of KHL panels on the inside, untreated larch-wood cladding on the outside, and insulation and air in between.

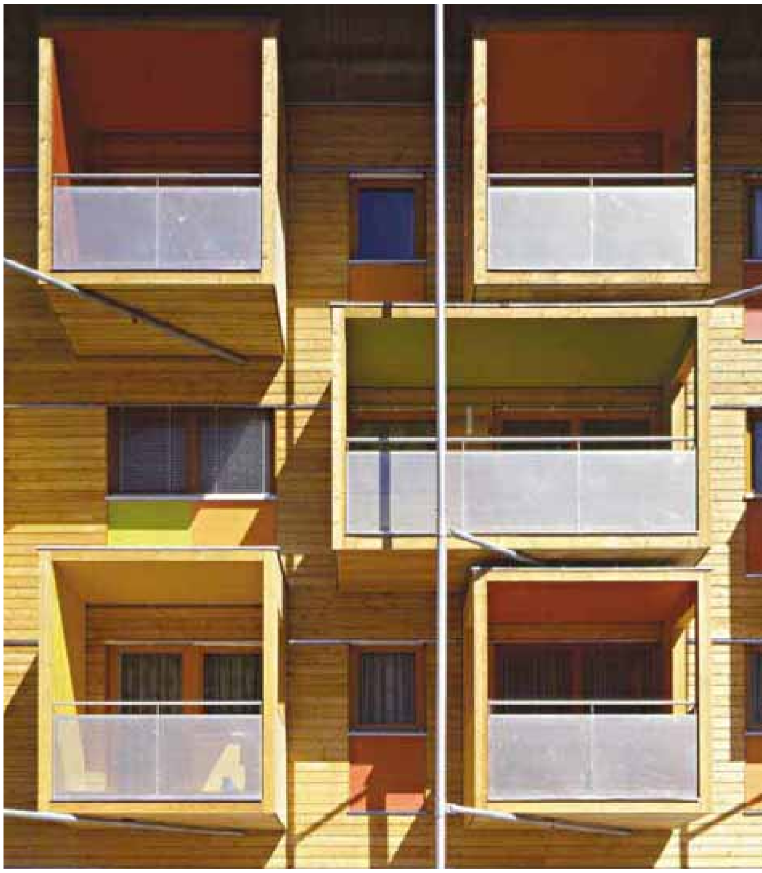
To keep costs down, the architects designed the balconies as prefabricated elements made of KHL that clip onto the building. Slender stainless-steel poles attached to the balconies stabilize the zinc canopy at the top of the building. The canopy functions as a kind of umbrella, protecting the untreated wood panels of the facade.

Unafraid to have some fun, Mack and Hagmüller imbued Judenburg West with a playful sensibility. With its polychromatic balconies dressed in orange, red, yellow, and apple green, and its elegant steel poles adorning the facades like fine jewelry, the building is decked out to the nines. Yet the architects created this effect using only simple, inexpensive materials.

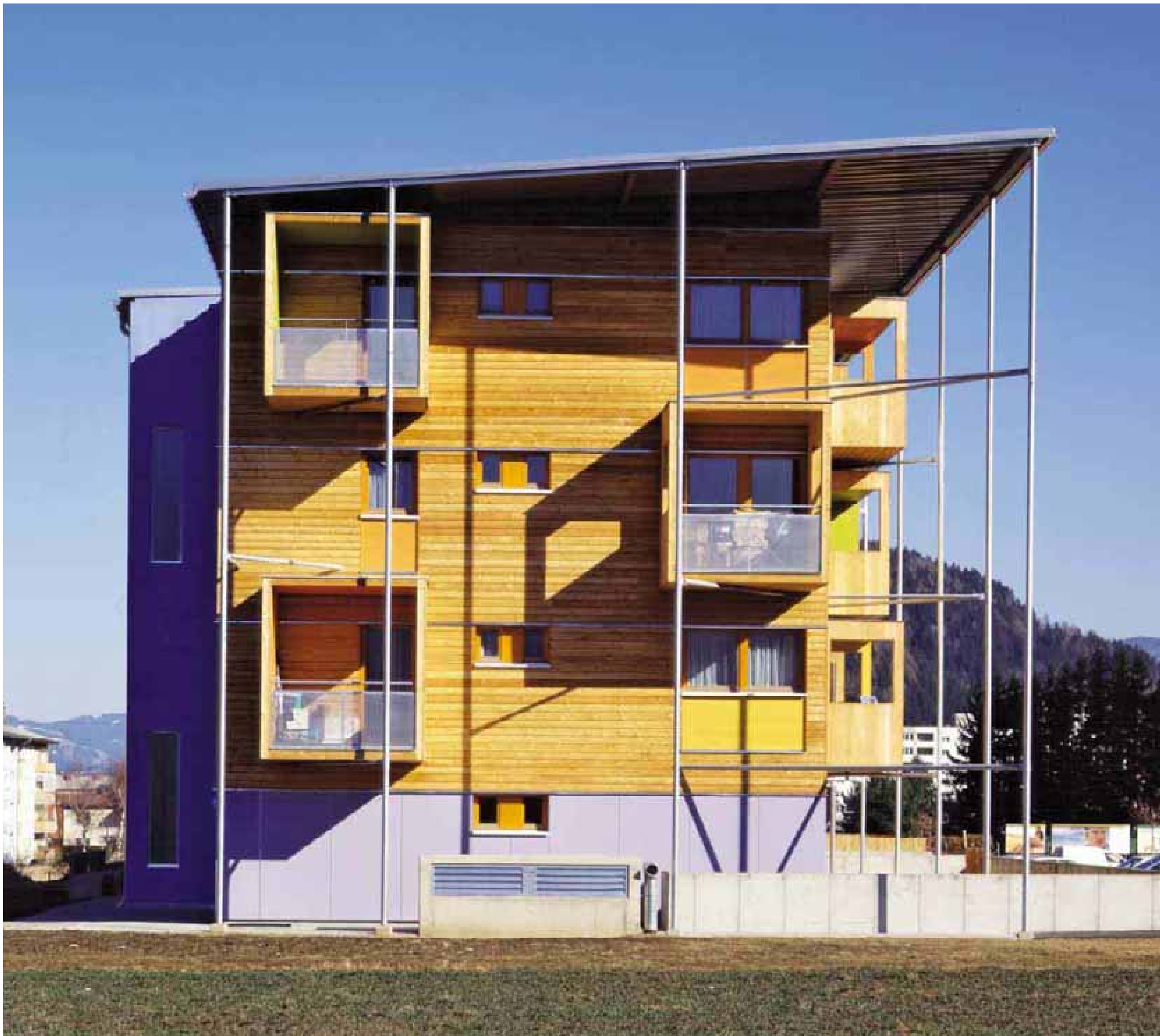
Commentary

Clearly, Judenburg West is not run-of-the-mill social housing. It defies the color blindness affecting many Austrian architects today, designers who are busy cranking out derivative, aesthetically correct wood residences inspired by Peter Zumthor and other Swiss Minimalists. It is ironic that while these designers bend over backward to out-internationalize International Style architecture, a Southern California–based architect such as Mack out-Austrianizes the local Austrians. ■





Bumped-out porches protrude on the facade in an irregular pattern on some of the units. The metal roofing extends over the wood panels of the exterior, protecting them like an umbrella. A network of slender, stainless-steel poles provides rigorous structural support. A street-level concrete garage forms the foundation of the four-story building.



Rag Flats
Philadelphia, Pennsylvania

3

WITH GEOMETRY AND COLOR, **ONION FLATS** CONCOCTS A SURPRISE MIX OF RESIDENCES BEHIND THE BRICK SHELL OF A FORMER RAG FACTORY.

By Jane F. Kolleeny

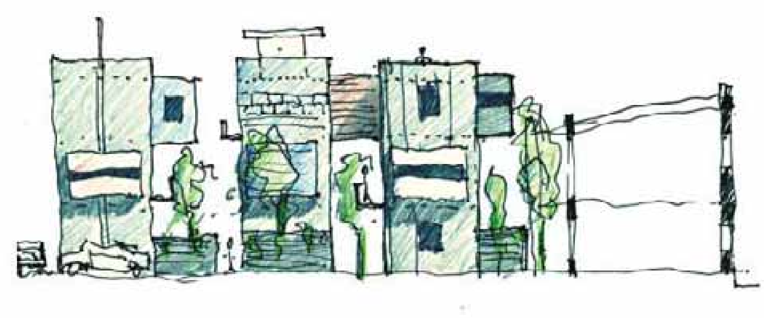
Architect/owners/builders: *Onion Flats—Patrick McDonald, Timothy McDonald, principals; Johnny McDonald, general manager; Kurt Schlenbaker, project manager/designer*
Architect of record: *Weber and Company Architects/Fink und Stange*
Engineers: *Amy Rivera (structural)*
Consultants: *Minus Studios (design/build collaborators); Cover (custom metal design/fabrication); Conservation Services Group (photovoltaic panel system); Kevin Wright, Juan Garcia (solar electronics); Evergreen Solar (solar panel manufacture); Anastasia Hudgins (landscape)*

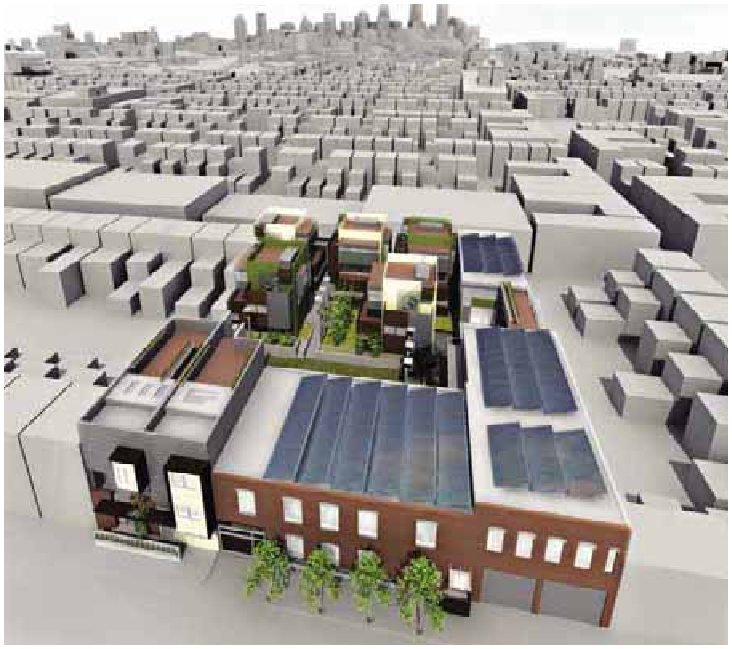
Size: *25,000 square feet*
Cost: *$3.6 million*
Completion date: *2005*

Sources
Roofing: *Dex-O-Tex*
Wood windows and doors: *Weathershield; Pozzi*
Security: *Seidle Intercom system*
Kitchen cabinets/woodwork: *IKEA*
Paints and stains: *Duron*
Stained concrete: *Schofield*
Tile: *Dal-Tile*
Dumbwaiters: *Butler Mobility*
Radiant heat and water system: *Peerless*

For more information on this project, go to Building Types Study at **www.archrecord.com**.

Think with your hands, not your heads! That's the motto of Onion Flats, a Philadelphia architecture firm founded in 1997 by two brothers, Tim and Patrick McDonald, who were joined by architect/builder Kurt Schlenbaker in 1999. Converting rundown industrial sites into residential and mixed-use projects, the firm has so far completed three developments—Market Flats, Capital Flats, and Rag Flats—doing everything from designing, building, and selling to managing the properties. The practice has no offices; instead, the team goes beyond the drawing board, setting up shop on-site to experiment with built forms. To empower a younger generation of architects, they employ students from architecture schools of three Philadelphia universities where Tim McDonald teaches, and hire friends to handle work in other disciplines as needed.





PHOTOGRAPHY: © DON WESTON

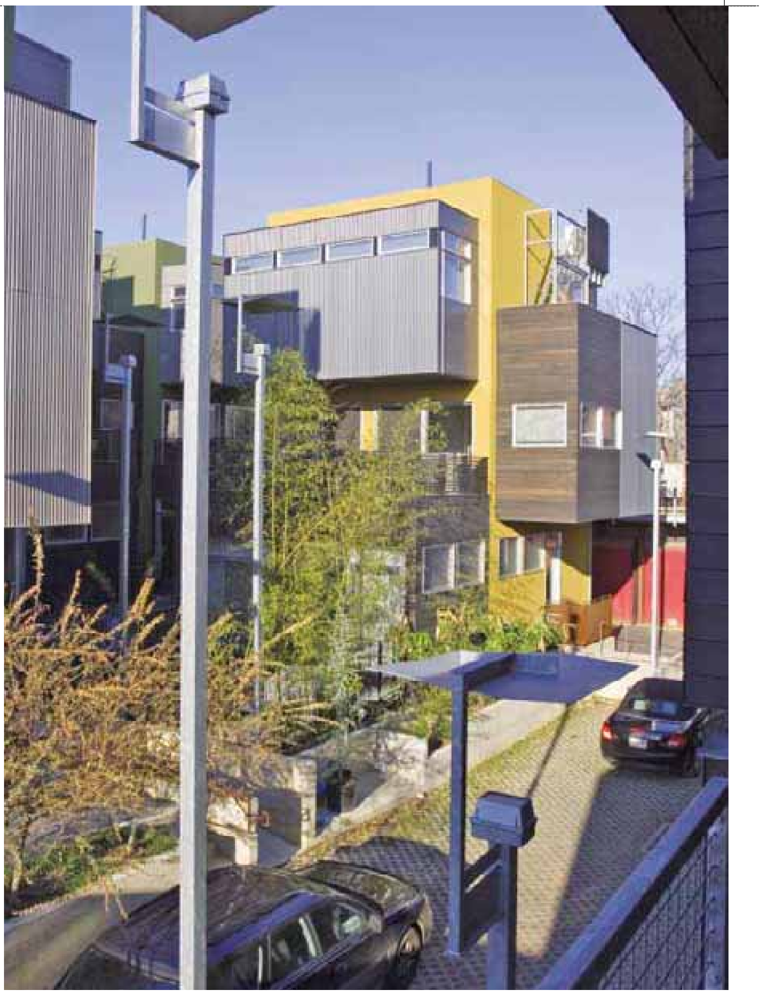
Program

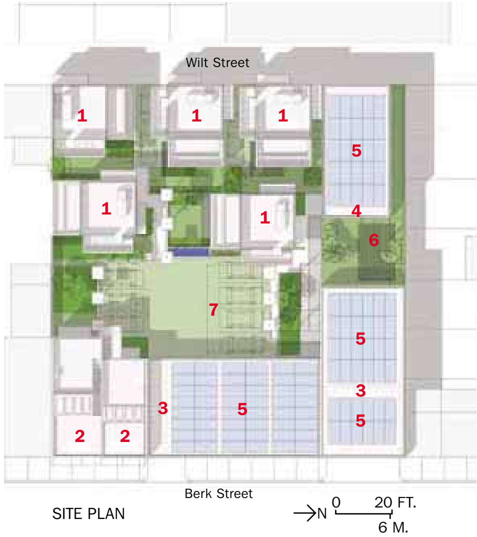
Though the odor of fish has long since gone, the name Fishtown remains. It refers to an area in Philadelphia near the Delaware River where, in the 1830s, when ice refrigeration was a luxury affordable only by the rich, fresh catch was brought for pickling, salting, or smoking for the less-well-heeled. Today, it is a tightly knit working-class community, where ramshackle houses are passed down through generations of Irish Catholic families.

Here in Fishtown, Onion Flats saw an opportunity to build 11 multifamily housing units in and around a former rag factory. Combining four kinds of dwelling units on the site, the McDonalds purchased the two-story facility from a local masonry contractor and cleaned it up. "The abandoned factory had been used as a dump for 10 years and was occupied by a family of feral cats," says Tim McDonald.

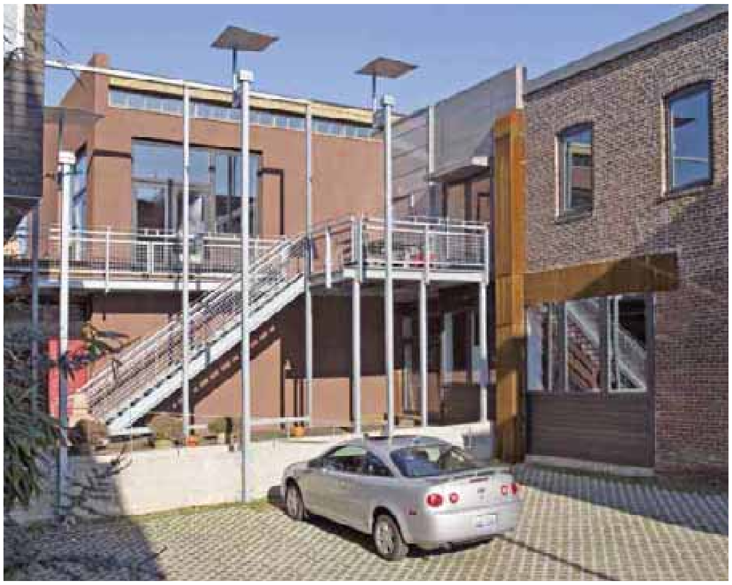
Solution

The factory's shell served as a starting place for various types of dwellings. The original rough-hewn red brick became the front and side walls of two lofts, with two row

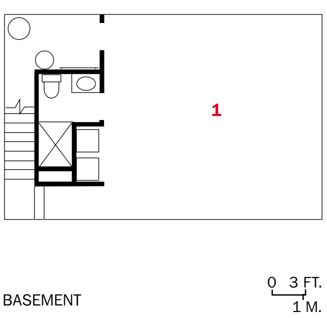




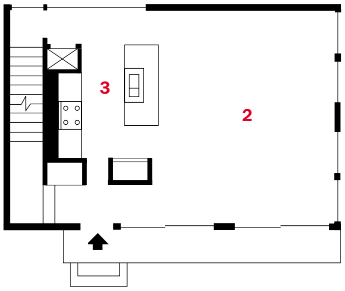
SITE PLAN



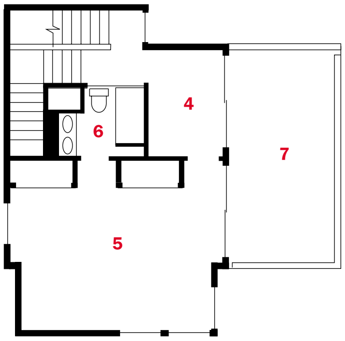
An interior courtyard of honeycomb-patterned paving blocks with grass peeking through the cracks provides parking. Switchback stairs give access to upper floors (right).



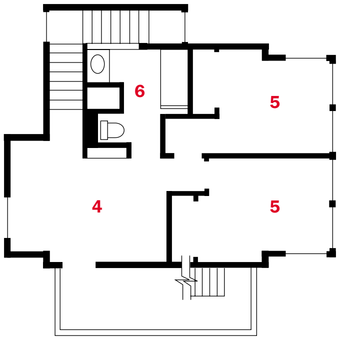
BASEMENT



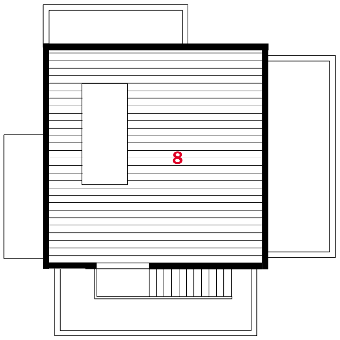
FIRST FLOOR



SECOND FLOOR



THIRD FLOOR



ROOF FLOOR

TRINITY UNITS

1. *Den*
2. *Living room*
3. *Kitchen*
4. *Study*
5. *Bedroom*
6. *Bath*
7. *Terrace*
8. *Roof deck*

houses also on the street-facing side, and a single one-story pavilion and five three-level units filling out the back portion of the site. Called Trinities, the three-story units are one of Philadelphia's most characteristic residential building types. Onion Flats' version of the Trinity stacks the floors irregularly, bumping them out on various sides to add space and open up the walls to insert windows and skylights that bring light into the interiors. "The units were designed so one would rarely need to turn on a light," says the architect.

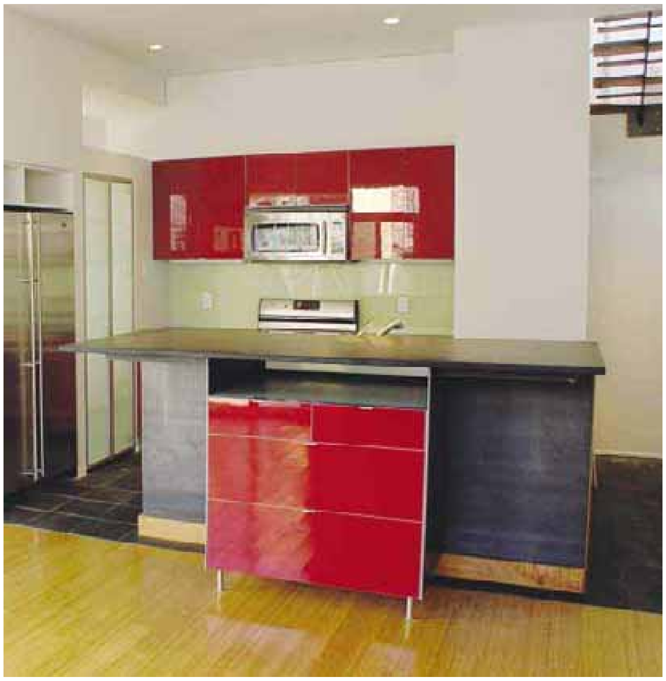
All 11 units are set around an interior courtyard of bamboo gardens and a parking lot laid with attractive turf pavers. Six photovoltiac cells generate 70 to 100 percent of the electricity for the complex, giving the project a strong green ethos. An underground cistern collects rainwater that is distributed for all nonpotable uses. Shared spaces include a green roof, a community garden, a composting area, and a gym.

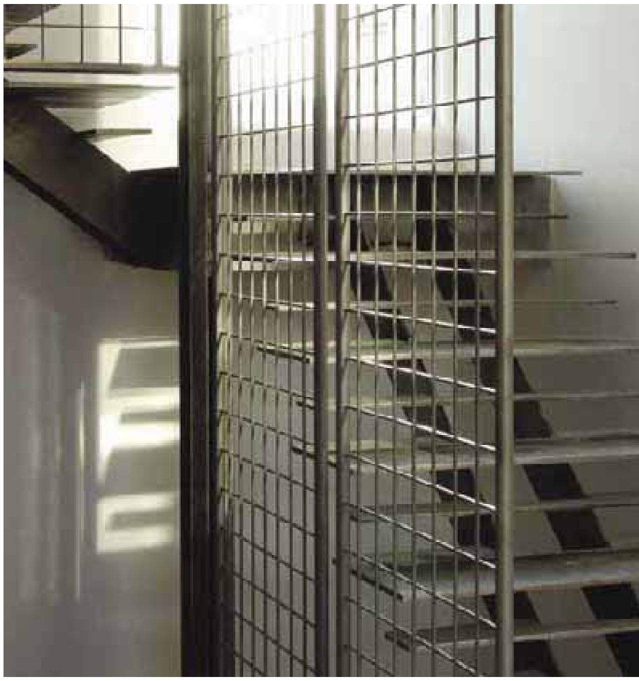
To maximize the efficiency of the 20-by-20-foot Trinities, the architects designed the roofs as outdoor living rooms, equipped with phone jacks, Internet connection, electricity, gas, and a dumbwaiter that transports refreshments for rooftop gatherings. The two row houses—designed by Minus Studios, a frequent collaborator with Onion Flats—face the street and are sandwiched between the factory wall and row houses on an adjacent property. Cantilevered elements on the front-facing bedrooms provide space for reading nooks, while rear-facing bedrooms feature balconies. Switchback staircases float over the courtyard, and accessible roofs supplement shallow backyards.

The architects clad the buildings with black-stained, cedar tongue-in-groove panels, alternating with corrugated metal, stucco, and Cor-Ten steel. Inside, bamboo floors, Pennsylvania-slate countertops and tiles, eucalyptus cabinetry, and ceiling fans give the apartments a comfortable, Modern look. Custom-designed steel stairs and bridges both inside and out were fabricated by team members in the welding and wood shops set up temporarily on the premises. Onion Flats assigned small projects to its student employees as part of its mentoring program. "We would give a student the project of designing a door, and then they own that project. It's a very good way for them to build confidence," said Kurt Schlenbaker.

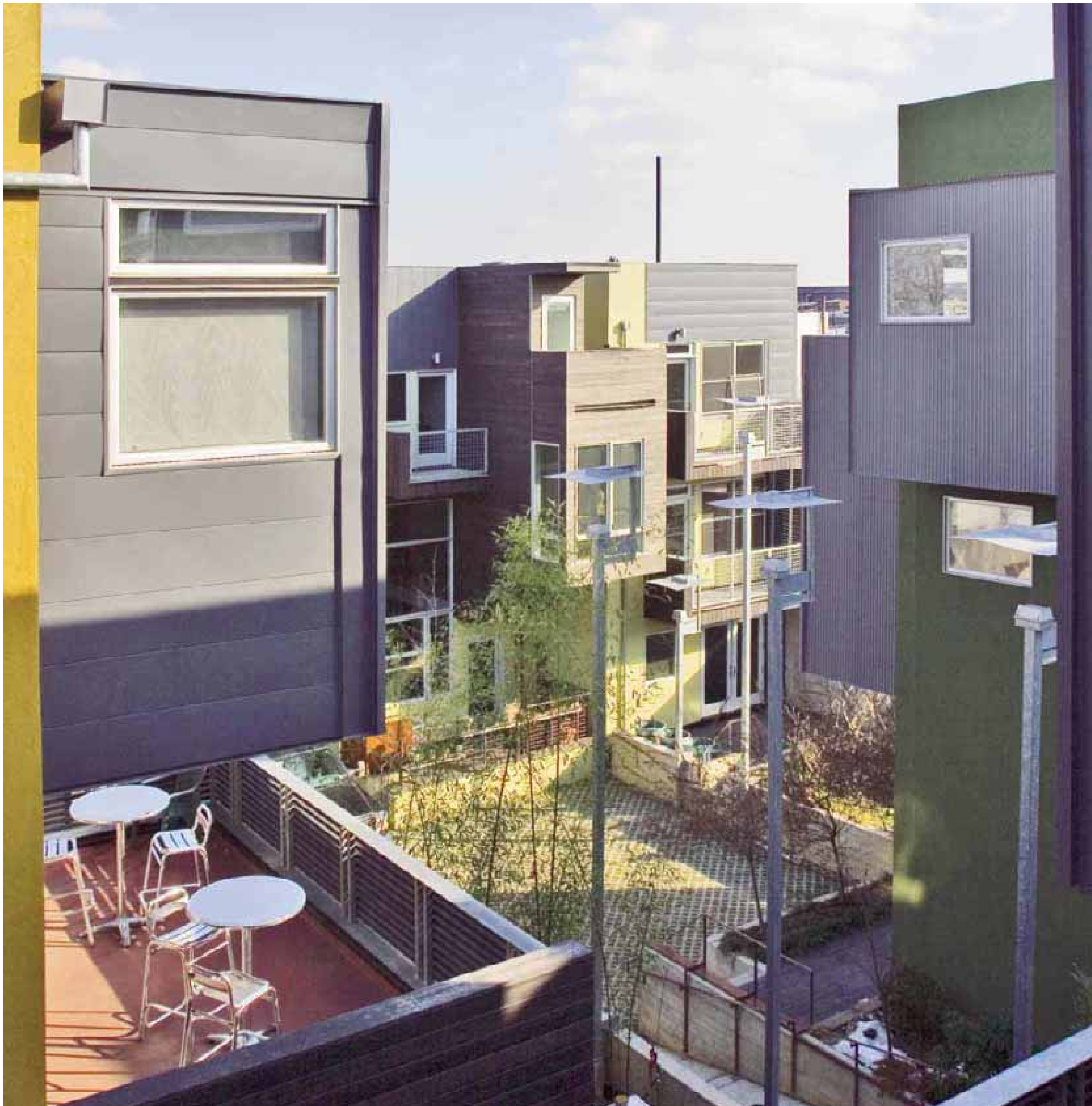
Commentary

Rag Flats shows how a small project can make a difference in a struggling community. Instead of tearing down, Onion Flats rebuilt, demonstrating how sustainable design, hands-on architecture, and community engagement can provide the kind of diverse housing needed to turn around a neighborhood in transition. ■





Some of the kitchen cabinets are composed of a deep burgundy polymer laminate (top left). Floating metal stairways fabricated on-site allow natural light to penetrate the interiors (top right). The 11 units are centered around a courtyard with bamboo gardens. Elegant light fixtures and downspouts are among the custom-made elements on the exterior. Balconies and rooftop living rooms maximize the use of the outdoors, achieving a sense of community life in the shared space of the courtyard (right).



K Lofts
San Diego, California

4

USING A SERIES OF UNIQUE GEOMETRIC ELEVATIONS, JONATHAN SEGAL ARCHITECTS DEVELOPS NINE UNITS OF MODESTLY PRICED HOUSING.

By Allison Milionis

Architect: *Jonathan Segal Architect—Jonathan Segal, Wendy Segal, Guillermo Tomaszewski, Greg Yeatter, Luke Henderson, Steve Money-Miles, Mark Dakuna, project team*
Owner: *Jonathan Segal Architect, FAIA*
Engineers: *Mobayed Consulting Group*
Consultants: *Ivy Landscape (landscape)*

Size: *7,800 square feet*
Cost: *$985,000*
Completion date: *2005*

Sources
Windows/entrances/sliding doors: *International Aluminum Windowmaster*
Skylights: *Bristolite*
Cabinet hardware/woodwork: *IKEA*
Paints/stains: *Frazee; Dal-Tile*
Carpets: *Flor Carpet*
Lighting: *Halo*

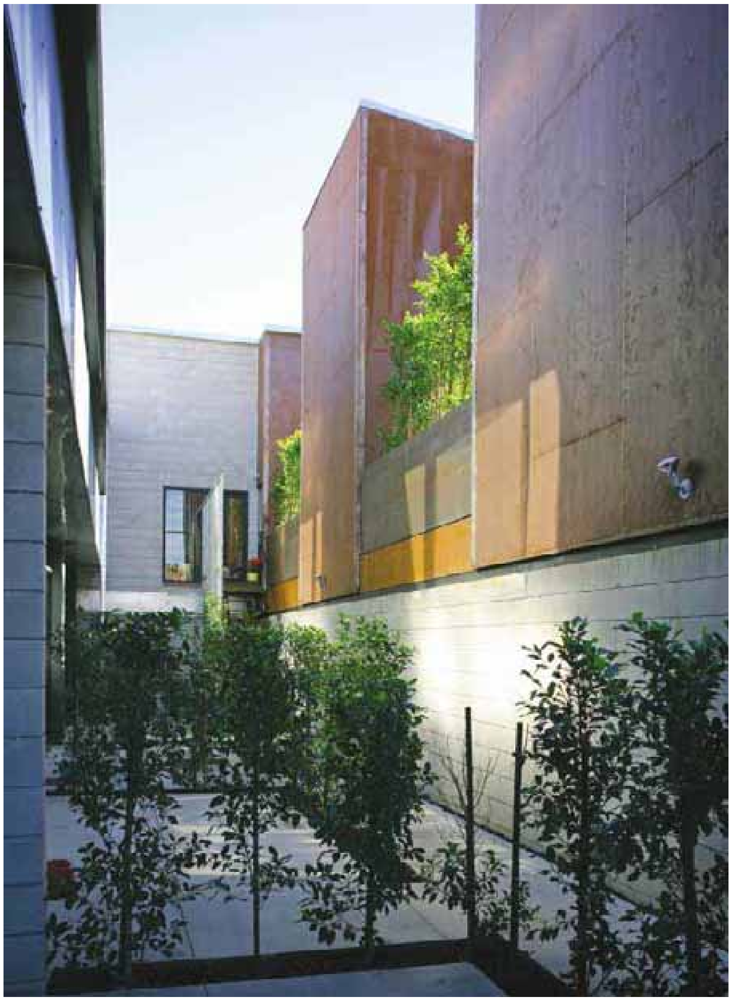
For more information on this project, go to Building Types Study at **www.archrecord.com**.

San Diego's Golden Hill neighborhood displays a colorful history of architectural styles, with Victorian, Colonial Revival, and Craftsman-style houses, as well as modest bungalows, 20th-century apartment buildings, and low-rise commercial structures lining its wide streets. For many years, Golden Hill had been deteriorating, as residents moved to the suburbs. But in recent years, professionals and young families have started returning to neighborhoods like Golden Hill, eagerly buying up historic houses with wide porches and expansive yards. But with few of these old houses left on the market, demand has been growing for innovative multifamily alternatives.

Program

San Diego architect, developer, and builder Jonathan Segal, FAIA, has been an active player in revitalizing a number of downtown San Diego neighborhoods [see RECORD, July 2005, page 146; January 2003, page 180] and envisions Modern apartment complexes merging seamlessly with Golden Hill's historic single-family homes. An expert at urban infill who has completed 19 housing projects in the city, Segal purchased a corner lot on Golden Hill, where an abandoned convenience store and parking lot stood.

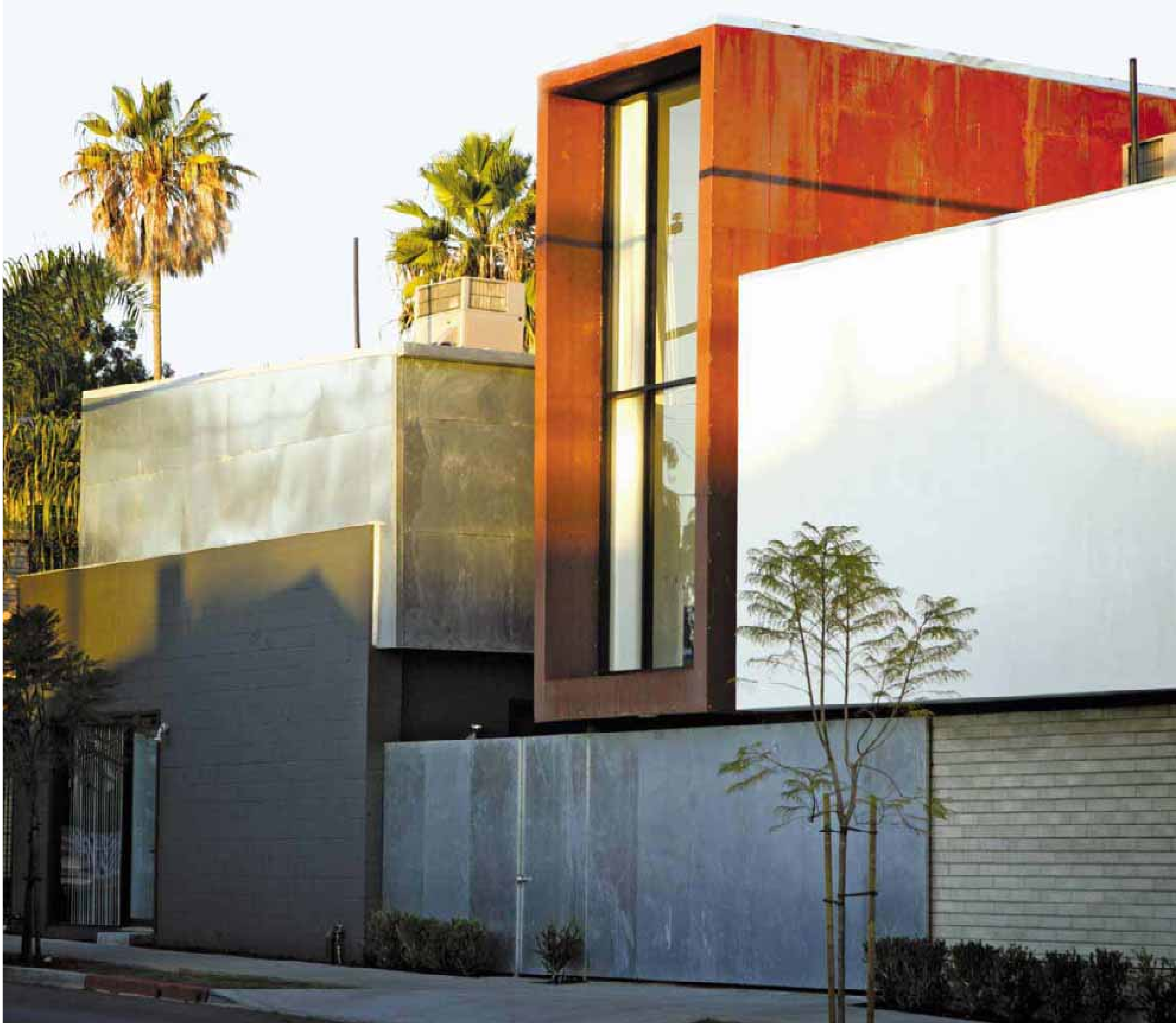
Allison Milionis writes on architecture and design for several magazines.

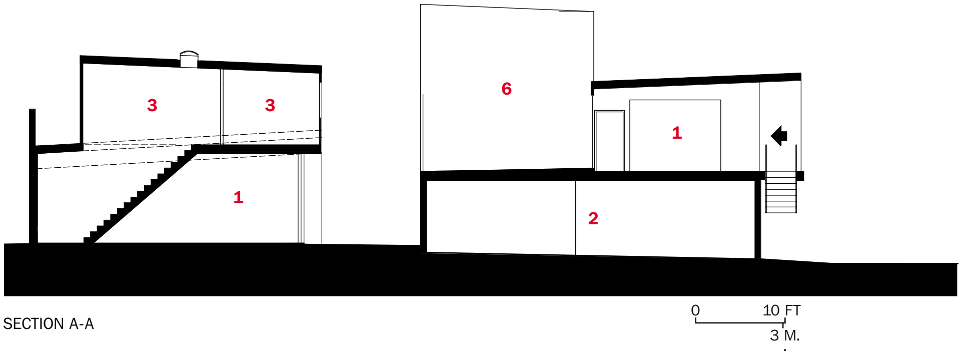


PHOTOGRAPHY: © PAUL BODY

With only 9,000 square feet to work with, including the existing building, Segal proposed an apartment complex with a street-level garage and a small commercial/retail space. By allocating one dwelling unit as a low-income rental, he qualified for a building bonus of two additional market-rate units, which pushed the total number of apartments to nine. Although the city approved his plan, it didn't give him the necessary variance to include the retail space, a big disappointment for Segal, who champions mixed-use development.

Rather than tearing down an existing convenience store on the site, Segal inserted five two-story dwelling units into it. A steel-clad tower houses two units. Inexpensive exterior finishes such as painted concrete, stucco, and exposed rusting steel plates give definition to the building's different volumes and levels and create unique compositions for each elevation.

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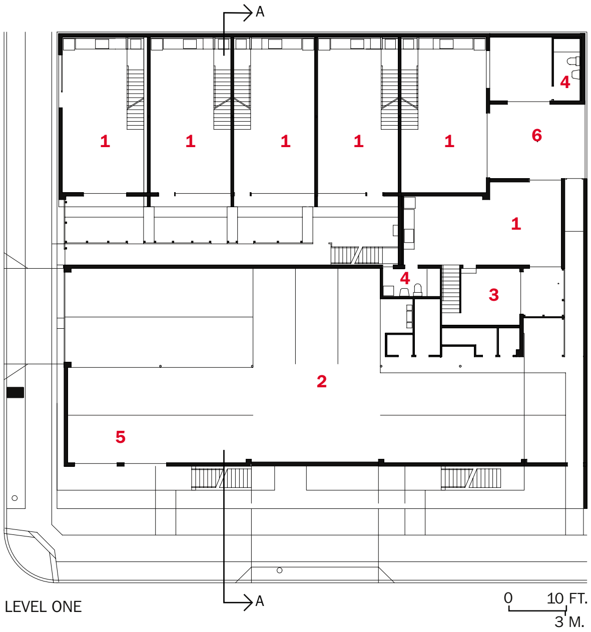
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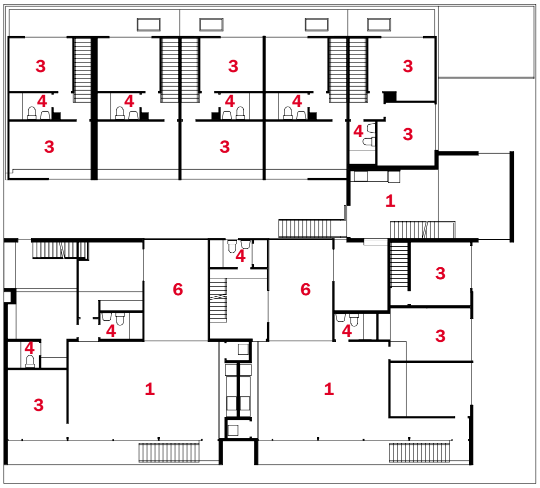
LEVEL ONE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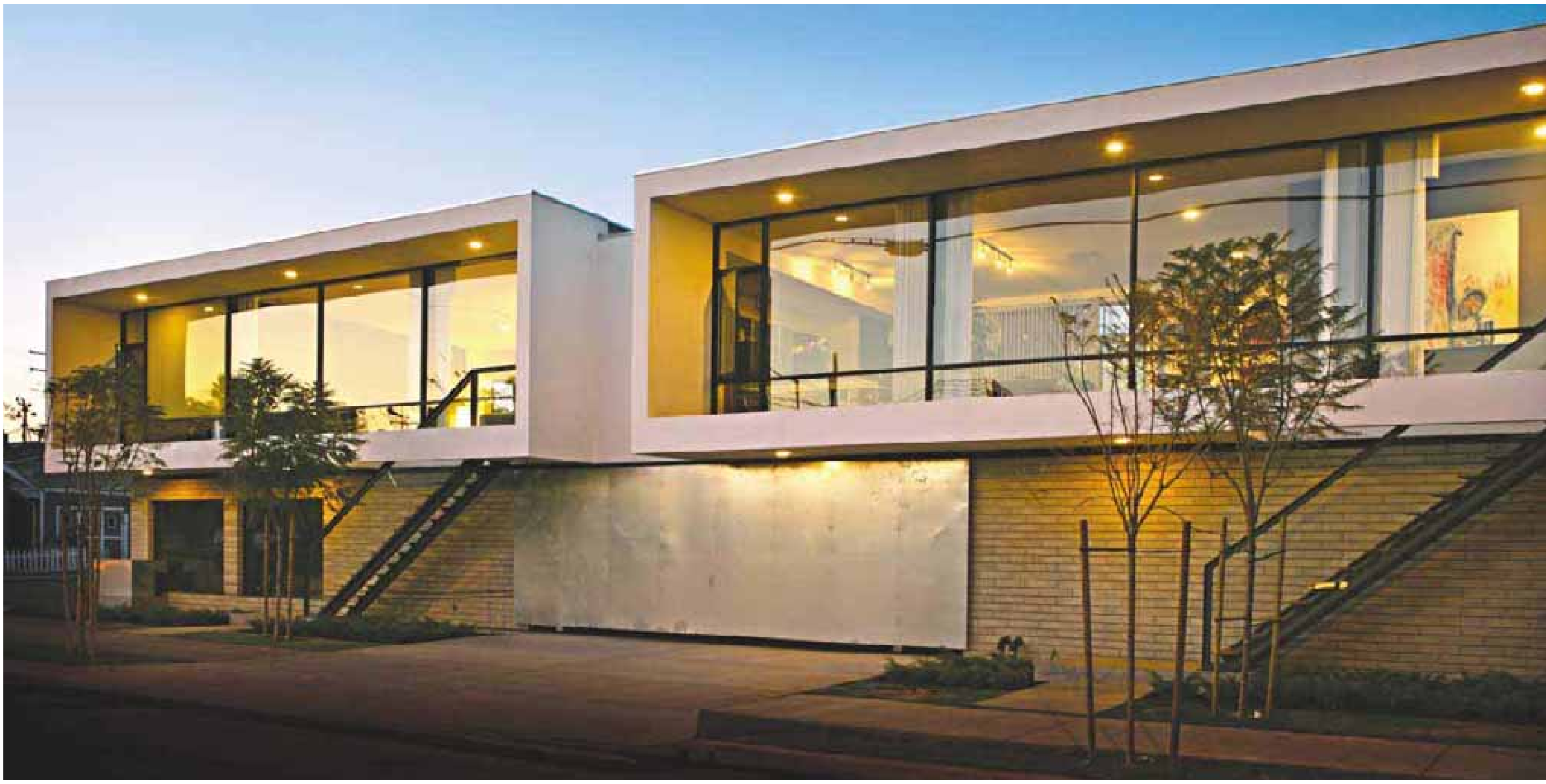
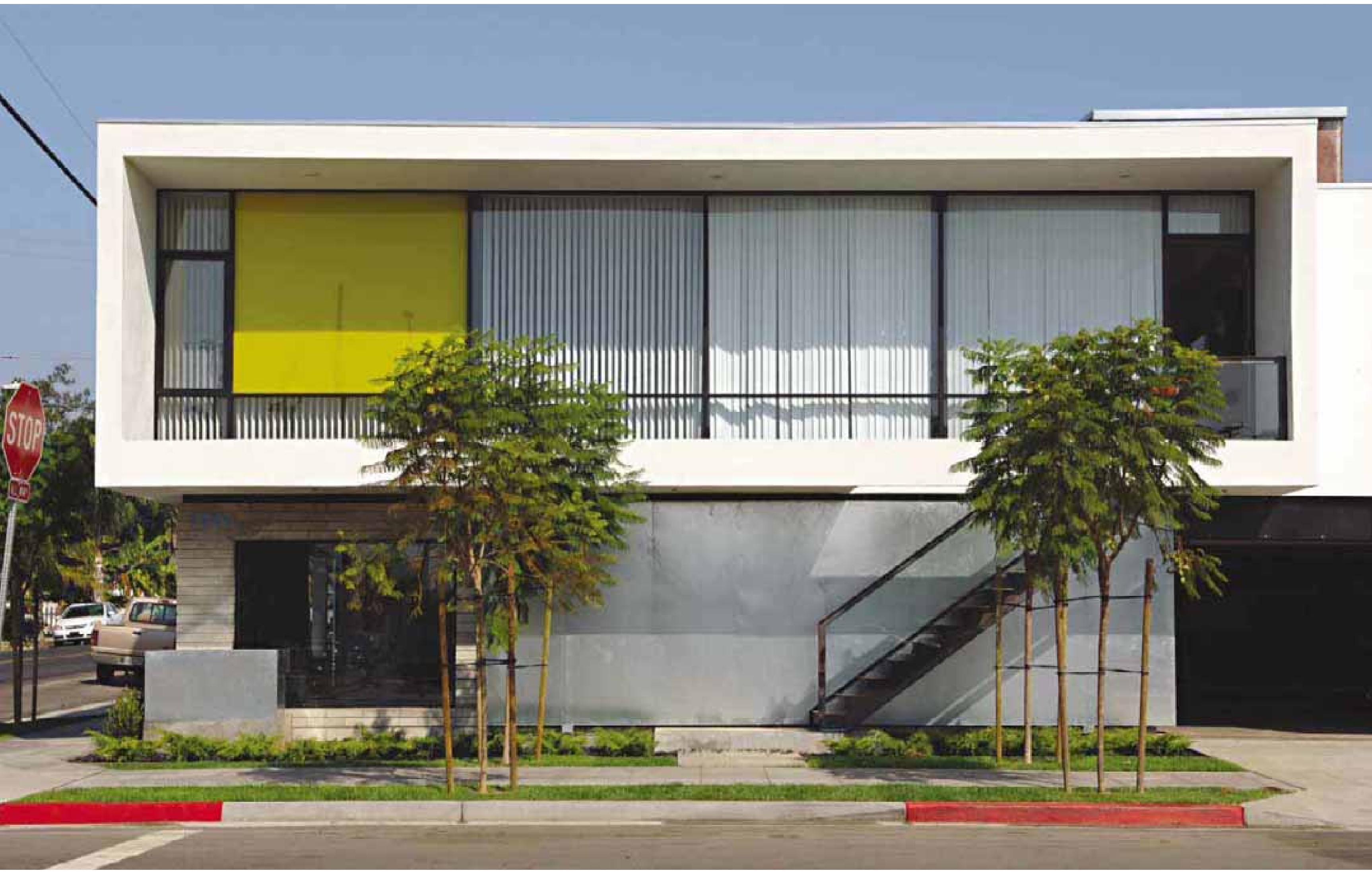
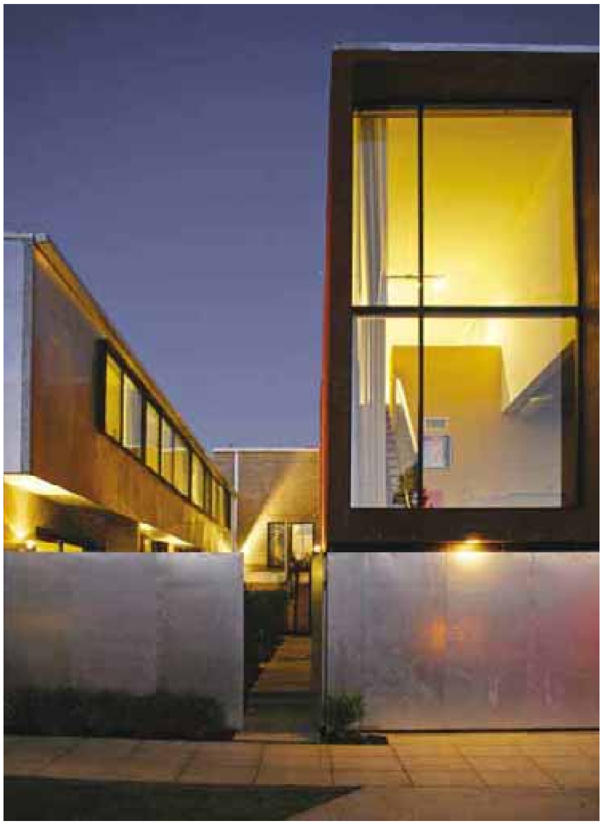
LEVEL TWO

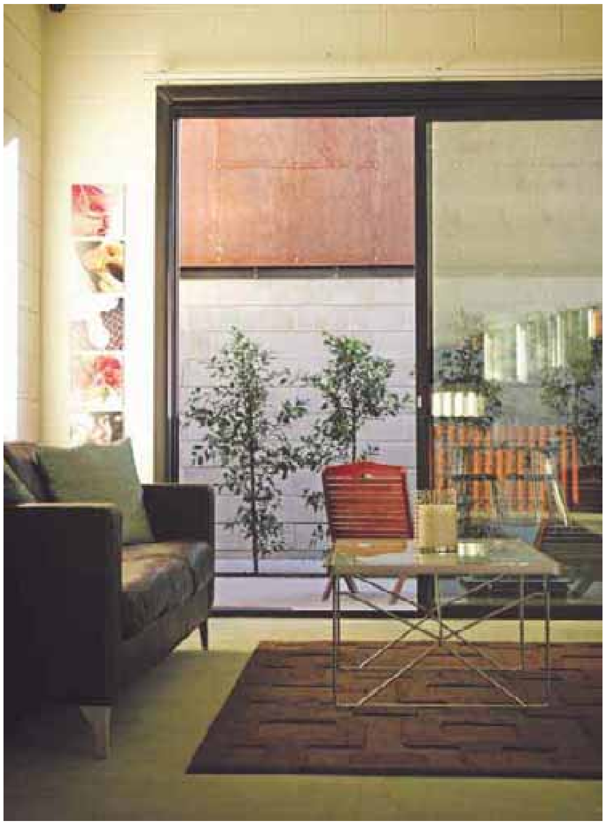
1. *Kitchen/living/ dining*
2. *Parking*
3. *Bedroom*
4. *Bath*
5. *Retail*
6. *Patio*

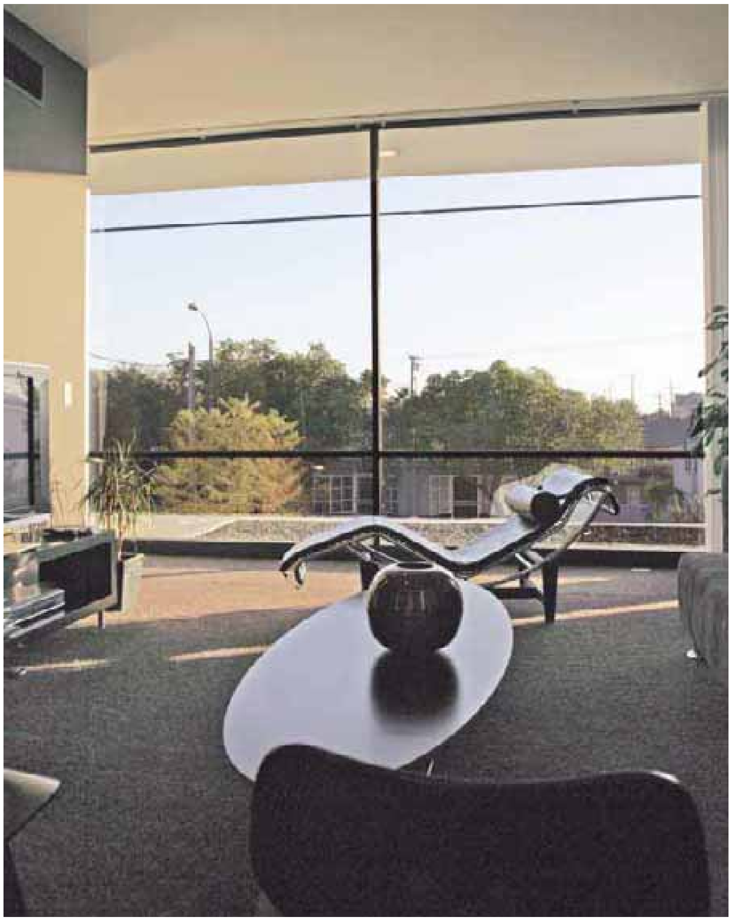




A white box houses two units and serves as the showpiece of the complex. Sitting on top of the garage, it hovers over the street, its glass walls revealing open interior spaces. The geometry of the glass panes, black moldings, and primary colors recalls a Mondrian painting (above and opposite). The other distinctive elevation is the steel tower (near right). Interiors are sleek and Modern (far right).







Solution

Rather than tear down the old building, Segal opted to use the structure, saving nearly $80,000 in demolition and construction costs. "It's good for the environment, it's good architecturally, and it's good for us, financially," he said. He removed the existing roof and rebuilt it to support a second story, then inserted five two-story dwelling units into the original structure. Four of the five apartments feature the same basic layout: an open ground floor with a kitchen and adjacent outdoor patio, a custom-made steel stairwell along the interior wall, two small bedrooms, and a bathroom on the second level. The fifth unit differs slightly in that it includes a ground-floor bathroom and multipurpose room that can double as a dining room.

Two separate structures with their own identities—one a steel-clad tower, the other a horizontal white box—house the remaining four units. The tower contains two bilevel units with plans resembling those of the adjacent five. The white box, however, serves as the showpiece of the complex. Sitting atop the garage, it hovers above B Street, a wall of floor-to-ceiling glass revealing an open interior of white walls and minimal detail. Segal plays with color on this elevation, and while he resists the reference, the geometric patterns of glass panes, black moldings, and primary colors recall a Mondrian painting. Both units in the white box contain three bedrooms and two baths, as well as a spacious outdoor terrace off the back.

Segal was able to keep construction cost to just $82 a square foot by using his own crew to frame, skin, and waterproof the apartments, as well as install windows, kitchens, and cabinetry. Simple, off-the-shelf interior materials, such as easy-to-install carpet squares, also reduced costs. A custom-designed steel staircase with a glass railing enlivens each apartment, but Segal was able to build it for just $3,000 by using his own workers. Inexpensive exterior finishes, such as painted concrete, stucco, and exposed, naturally rusting steel plates, give definition to the building's different volumes and levels and create unique compositions for each elevation.

Commentary

Although it stands out from its century-old neighbors, and some local residents criticized it when it opened, K Lofts fits well with the scale of the area, and provides a necessary dose of mixed-income housing. Indeed, as part of his strategy of integrating old and new, market-rate and subsidized, Segal doesn't disclose which unit is "affordable." And a tour of the complex doesn't easily reveal the answer, as each apartment enjoys equal footing in terms of design and amenities. By working this way, Segal is building a community, not just a housing complex. ■

Simple, off-the-shelf interior elements reduced costs (left). Each apartment contains a custom-designed steel staircase with a glass railing (below).

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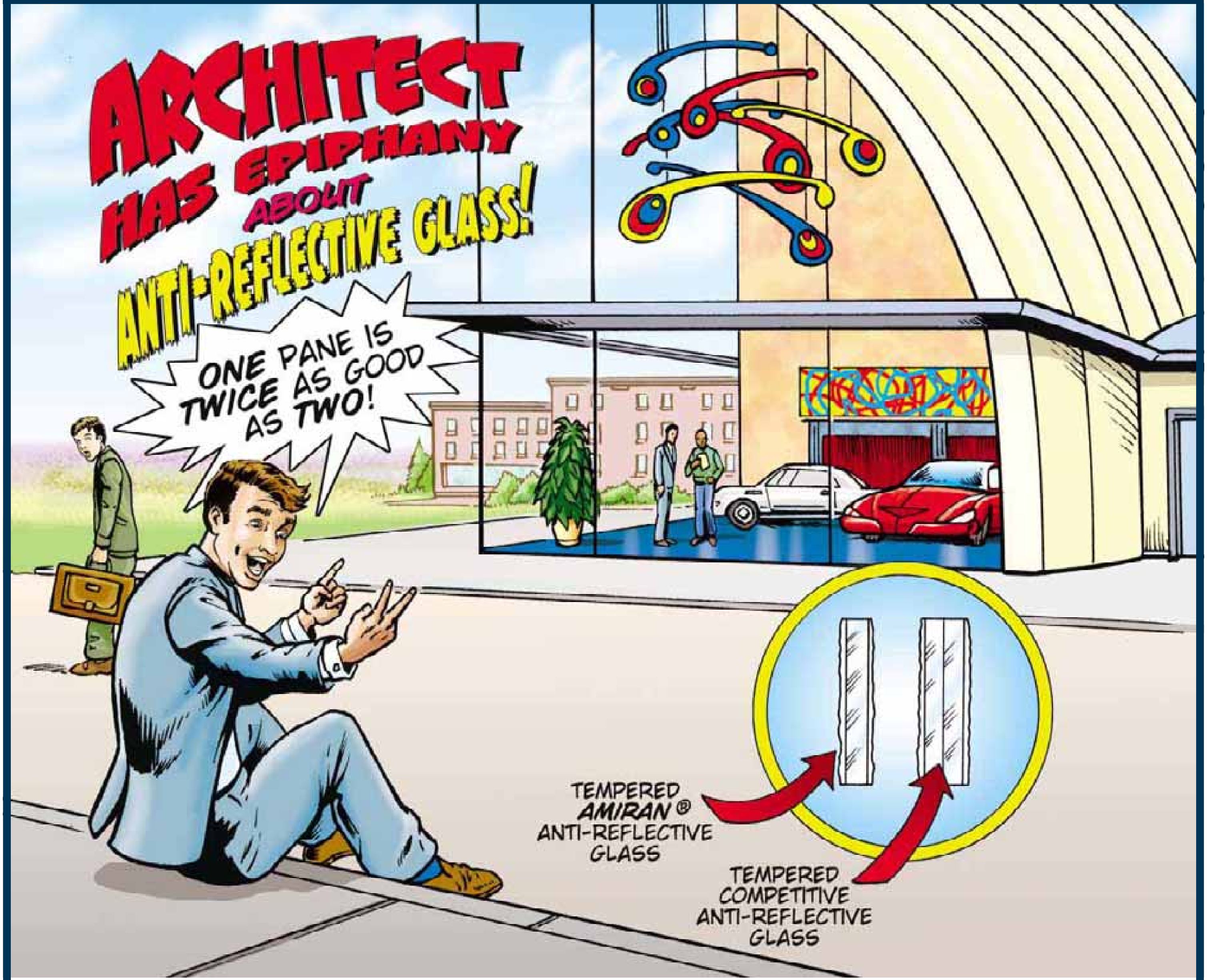
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New Technologies Create New Challenges

WITH THE CURRENT EMPHASIS ON TECHNOLOGY AND SUSTAINABILITY, ARCHITECTS AND RESEARCHERS RELY ON BUILDING PROCESS TO MANAGE THE FLOOD OF PRODUCTS, MATERIALS, AND OPTIONS

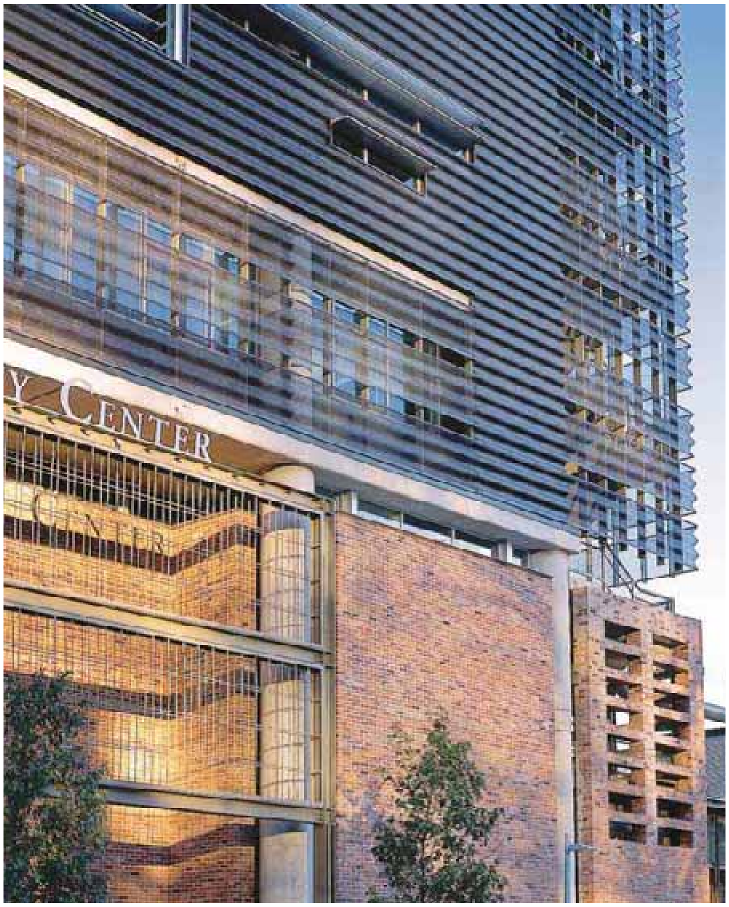
By Sara Hart

Building *process* is a vague concept with multiple definitions, but it drives every architectural project. It usually refers to the methodology, often inventive and personal, that the architect relies on to steer a project from concept to completion. Process is intrinsic and subjective, so it remains largely an abstraction when evaluating the finished product. Problem-solving, fact-finding, iteration, integration, intuition, and judgment are elements of process. It reconciles design and construction in practice, but it also guides research out of the laboratory and into the marketplace.

The researcher

John E. Fernandez is an associate professor of Design and Building Technology in the Department of Architecture at the Massachusetts Institute of Technology (MIT). As a member of the building technology program, Fernandez conducts applied research, as opposed to the fundamental or theoretical kinds. In other words, the purpose of every investigation is not a series of isolated inquiries in which random materials are selected and tested, but rather the arduous search for commercial application. As Fernandez notes, "Prototypes are the end result in a lot of research, which often means they're never heard of again. Applied research is slow, but hopefully the findings are permanent." (All students in the department at MIT are expected to participate in a research project as a requirement of degree completion. Teams are typically made up of interdepartmental faculty and students.)

In building technology research, the work is goal-oriented: How do you join two materials? How do you then attach them to a building? What properties must be added to an existing material to make it viable? And so on. Fernandez argues that our knowledge base must be expanded to include advances in materials science and engineering. He concedes, however, that "the diffusion of innovation" in the construction industry is slower than in comparable industries. Be that as it may, the irony is that architects and engineers are more focused on new materials and technologies today than they have been in half a century.



Architecture firms Lake/Flato and BNIM collaborated on a model of sustainable design for the Nursing School/Student Center at the University of Texas.

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CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 136 and follow the instructions.

LEARNING OBJECTIVES

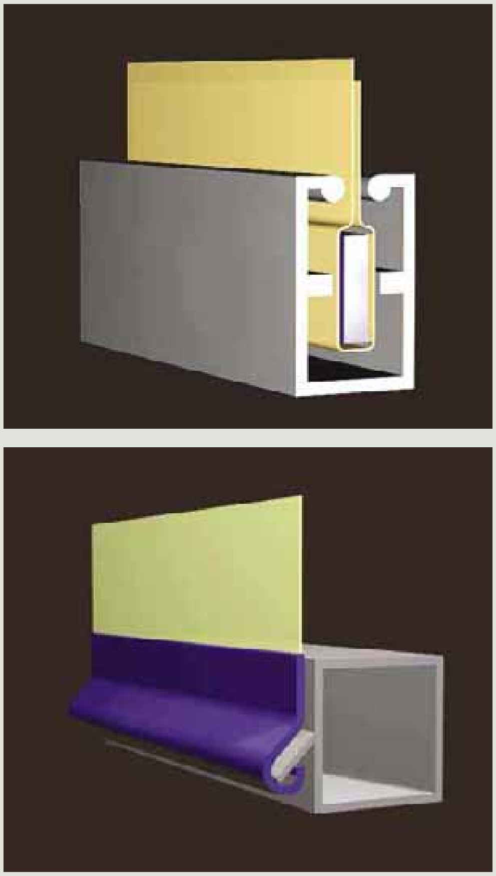
After reading this article, you should be able to:

1. *Describe a project that uses applied research with nontraditional materials.*
2. *Discuss how technology transfer benefits the building process.*
3. *Describe a project where the process is driven by sustainable practices.*

For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.archrecord.com**.

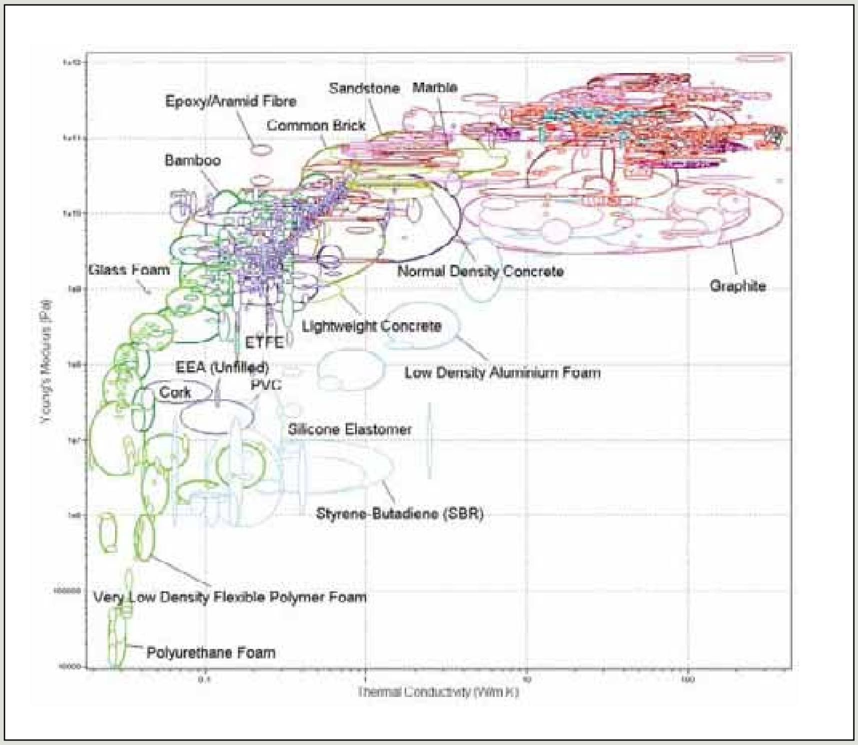
Fernandez has been directing research focused on emerging and nontraditional materials (including natural and synthetic fibers, new laminated glass assemblies, and textile building enclosures), innovative architectural assemblies, sustainable materials, and the technical and design opportunities offered by the continuing exploration of contemporary materials. As the principal investigator for the "Multi-Layered Composite Fabrics Research Project" at MIT, Fernandez explored the commercial potential of textiles as they might be introduced into conventional building systems, particularly facades.

The design and construction of glass-and-metal building envelopes is well established and time-tested within the construction industry. Their performance is reliable and predictable. These building systems are generally made up of rigid, orthogonal, unitized components, the sizes of which are generally limited to what workers can move into



John Fernandez's research into multilayered composite fabrics at MIT included an in-depth investigation of the detailing required to continuously restrain fabric material in order to avoid stress concentrations and unnecessary and intrusive fasteners.

This type of chart (below) is useful in research for describing the thermal conductivity for a variety of materials in relation to their tensile elastic modulus.



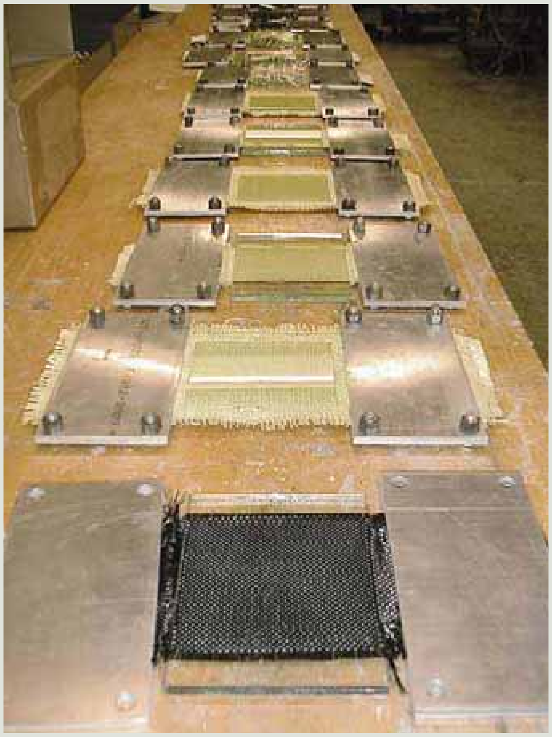
position and then join together and attach to a structure. While this method of enclosing structures has been the standard for decades, Fernandez has been studying the rapid ascent, within the field of polymer science, of the development of high-performance textiles. His findings have been published in *Material Architecture: Emergent Materials for Innovative Buildings and Ecological Construction* (Architectural Press, an imprint of Elsevier, 2006).

Fernandez chose to explore his thesis, using materials already on the market. Finding a manufacturer to sponsor academic research takes time. After completing a white paper outlining the scope of his research, Fernandez spent a long 18 months making presentations to potential sponsors. In the end, he convinced Gore-Tex, a leader in composite textiles, to supply a dozen rolls of material for testing. Its technology is based on expanded polytetrafluoroethylene (PTFE)—better know as Dupont Teflon, and other fluoropolymer products. Whereas these products are now associated with waterproof, protective outerwear, Gore-Tex fluoropolymer products were originally meant to provide innovative solutions for next-generation cable assemblies for electronics, medical implants, and use with high-performance fabrics. Gore membranes have most of the characteristics required of building envelopes: moisture vapor permeability (breathability), but low water absorption; a high strength-to-weight ratio; low flammability; chemical inertness; and good weathering properties. In other words, the products were a perfect candidate for Fernandez's investigation.

Fernandez identified two obstacles in the way of a direct technology transfer. First, he had to consider the performance implications when a material is implemented in multiple layers; and secondly, how to detail the joints and restraints. With regard to the latter, Fernandez insists that there's a great deal of precedent in sailboat technology and existing tensile fabric structures to inform restraining techniques. Examples include Nicholas Grimshaw's ETFE pillows for the Eden Project and Richard Rogers's PTFE-coated Millennium Dome.

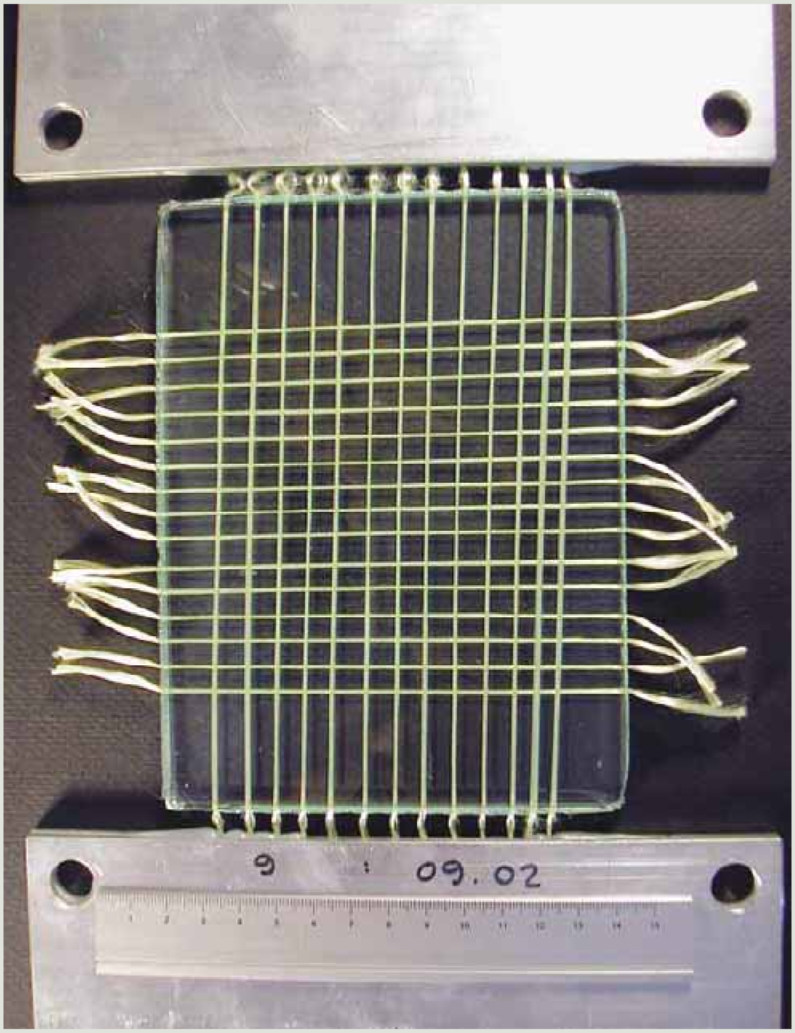
In an important development, experiments with those methods of curtain-wall assembly using textiles required in-depth reconsideration of the detail morphology, which typically defines rigid, orthogonal components. Textiles are strong in tension and ineffective in compression, so a very precise approach to connections is required. Also, nonstructural

IMAGES: COURTESY JOHN FERNANDEZ



In tests at MIT, textiles were laminated to glass and attached to aluminum plates to test failure behaviors (left).

Different kinds of fiber weaves and grids (below) were introduced to provide a range of tensile strengths.



textiles, the kind of system Fernandez is most interested in, cannot completely prevent the movement of the exterior surface of the fabric caused by the gusting of wind, for instance.

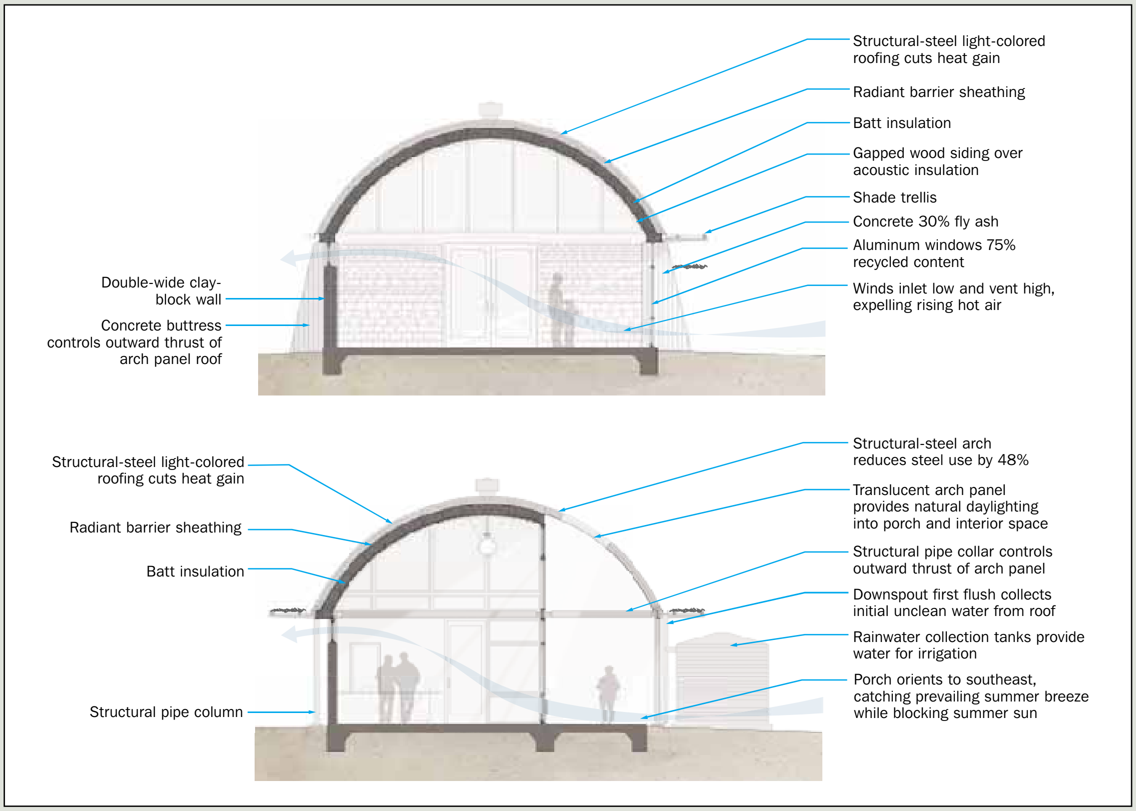
This condition led to the use of details that restrain textiles continuously along each edge. The most commonly used techniques are found in sail technologies; these use a cable or compressible filler (such as a neoprene or other high-density polymer) around which the fabric is wrapped and then slipped into a slotted metal tube. Most mainsails are restrained along their vertical edges in just this way. Other techniques also use an edge cable restraint and reinforced panels with embedded carbon and higher-strength fibers anchored back to points of restraint on the structure.

Detailing multilayered fabrics in this way changes the nature of the building design process. Designs can attempt a continuous textile surface employing a variety of textiles (Teflon-coated PVC, glass fibers, aramid textiles, for example). This is achieved by splicing together the edges of these various materials and restraining the assembly with an aluminum framework set at the edge of the slab. Because textiles can extend many hundreds of yards, the framework can be placed infrequently—only where it is needed at corners and other geometric discontinuities.

Another approach uses the notion of "scales" of fabric to cover the exterior surface of a building. Again, these areas of textile-covered wall are restrained in tension and brought back to the structural support of the building using an intermediate aluminum framework. However, in this case, the scales are more easily adapted to various configurations to respond to the changing conditions of the seasons and the daily needs and preferences of the occupants.

The governing principle behind assembly says the material should be continuous—or put another way, employ as few cuts as possible, in order to avoid intrusive fasteners. The benefit of textiles is that they can be continuous. Prefabrication allows for rolls up to 300 yards to be delivered to the site and attached with continuous channels. Fernandez concluded that it would be possible to close a building in one tenth the time of a conventional glass-and-metal frame assembly. The next step is to find a proof-of-concept opportunity (and validation of process) with a real client and project. Fernandez is looking for a commercial office building in

Barrel-vaulted spaces at the World Birding Center allow for long spans and maximum water collection on a contaminant-free metal surface. A large, vented attic space forms a protective air buffer for the spaces below and includes R-30 insulation. Large gravity vents at the ridge exhaust hot air without the use of motors by drawing air in from continuous vents at the eaves and end gables.


Structural-steel light-colored roofing cuts heat gain
Radiant barrier sheathing
Batt insulation
Gapped wood siding over acoustic insulation
Shade trellis
Concrete 30% fly ash
Aluminum windows 75% recycled content
Winds inlet low and vent high, expelling rising hot air
Double-wide clay-block wall
Concrete buttress controls outward thrust of arch panel roof
Structural-steel light-colored roofing cuts heat gain
Radiant barrier sheathing
Batt insulation
Structural pipe column
Structural-steel arch reduces steel use by 48%
Translucent arch panel provides natural daylighting into porch and interior space
Structural pipe collar controls outward thrust of arch panel
Downspout first flush collects initial unclean water from roof
Rainwater collection tanks provide water for irrigation
Porch orients to southeast, catching prevailing summer breeze while blocking summer sun

DRAWING: COURTESY LAKE/FLATO

which 85 percent of the envelope construction would be traditional, while the remaining sections would consist of textile.

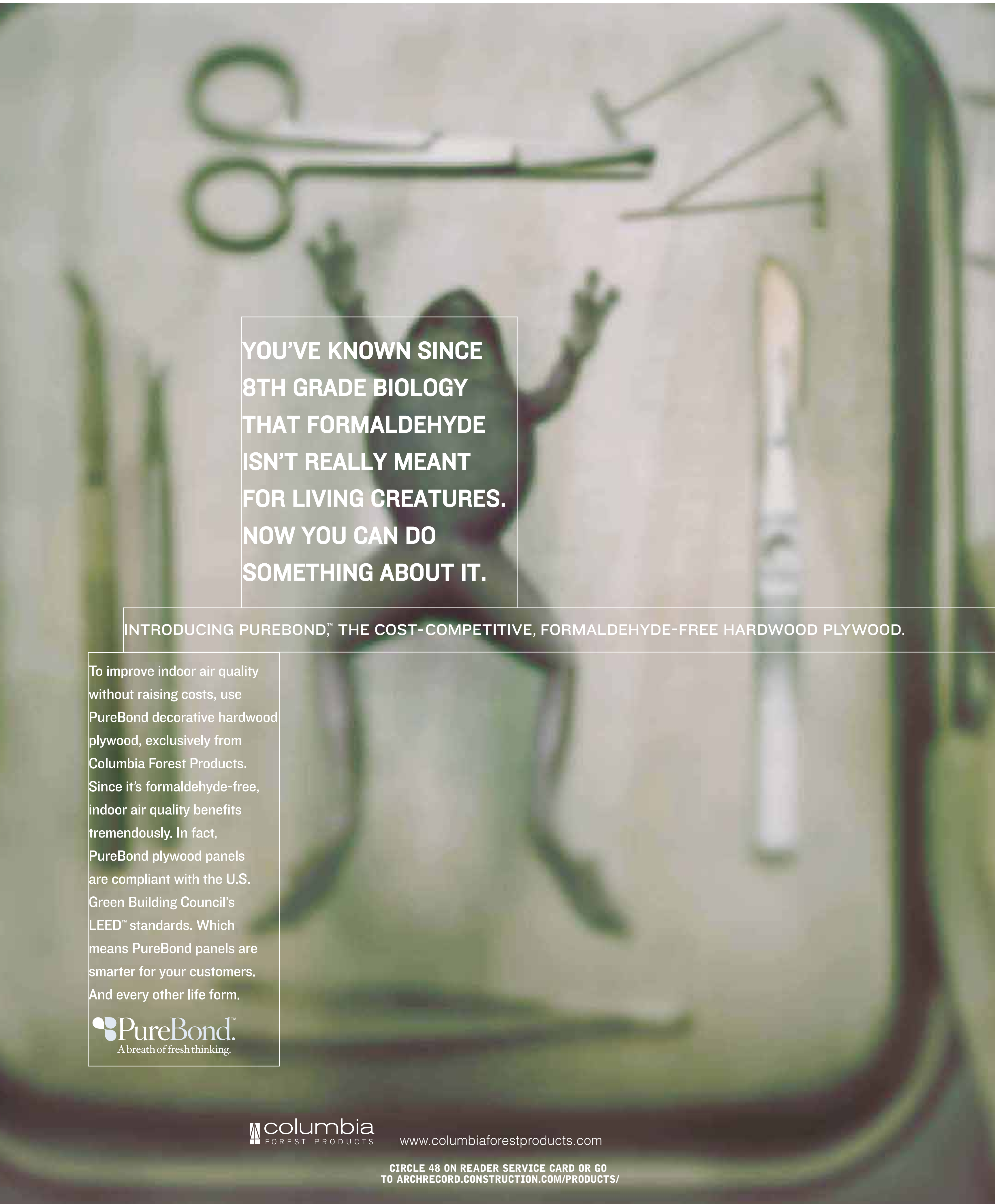
The practitioner

In contrast to Fernandez's applied research into nontraditional materials, San Antonio–based architects Lake/Flato's work relies on established materials and traditional methods of construction. On a stylistic level, the firm fuses down-home Texas practicality with a Modernist vocabulary, as shown in the two projects presented here. But at a deeper level, the process is driven by a commitment to sustainability principles and practices. The Lake/Flato method, however, does not rely on a checklist of independent, quantifiable sustainable features. Instead, its success comes from combining and overlapping these features, thus activating additional benefits that the architects control. In other words, Lake/Flato seeks a whole that is greater and greener than the sum of its LEED-approved parts.

The firm often wins commissions for projects that introduce man-made structures into environmentally fragile areas. In one unusual case, the Texas Parks & Wildlife Service commissioned the firm to design headquarters for the World Birding Center on a site adjacent to the Bentsen Rio Grande State Park in Mission, Texas, a major flyover path for local and migratory birds. At one time, the site was fragile. Then it was decimated. As principal David Lake, FAIA, recalls, "Over the decades, a colonial attitude prevailed, and the Lower Rio Grande Valley was clear-cut for agricultural purposes to the point where less than 5 percent of the natural habitat remained." Although this deforested area might not be impregnated with the contaminants necessary to qualify the site as a brownfield, Lake says they viewed what once was a rich river delta, now an old onion field, as if it were one.

The design process was then driven by methods of restoration and reclamation in which the buildings assumed a supporting role. A flooded garden dominates the arrival zone. This garden is a demonstration habitat, which exhibits the characteristics of the naturally flooded delta that once dominated the area. Arbors, a native plant restoration nursery, a Texas Ebony shade garden, and several bird habitats are all part of the master plan to restore the area's ecosystem.

With priorities focused on the land, the architects pursued forms



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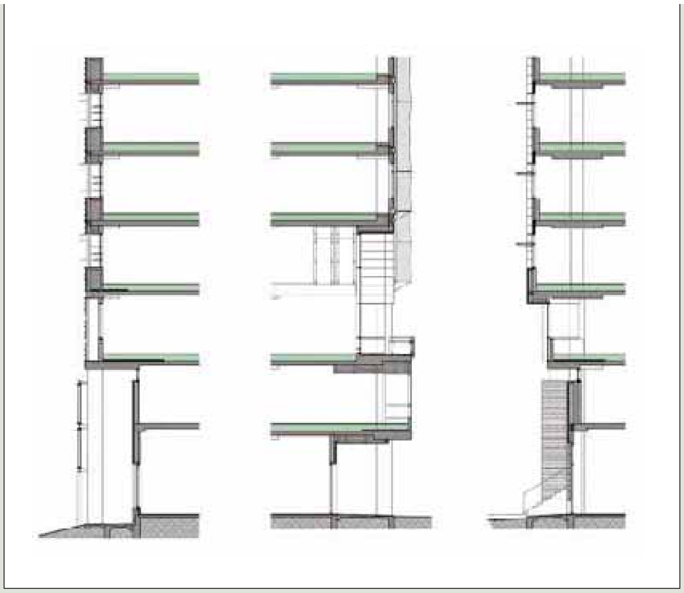


The sophisticated building envelope at the University of Texas Nursing School/Student Center is tuned to respond to the climatic conditions of Houston, from the percentage of glazing used on each facade to the design of shading devices. The glazing is spectrally selective with a low-E coating and a low-U value. Users have control of the thermal environment through operable windows and adjustable airflow controls.

DRAWING: COURTESY LAKE/FLATO

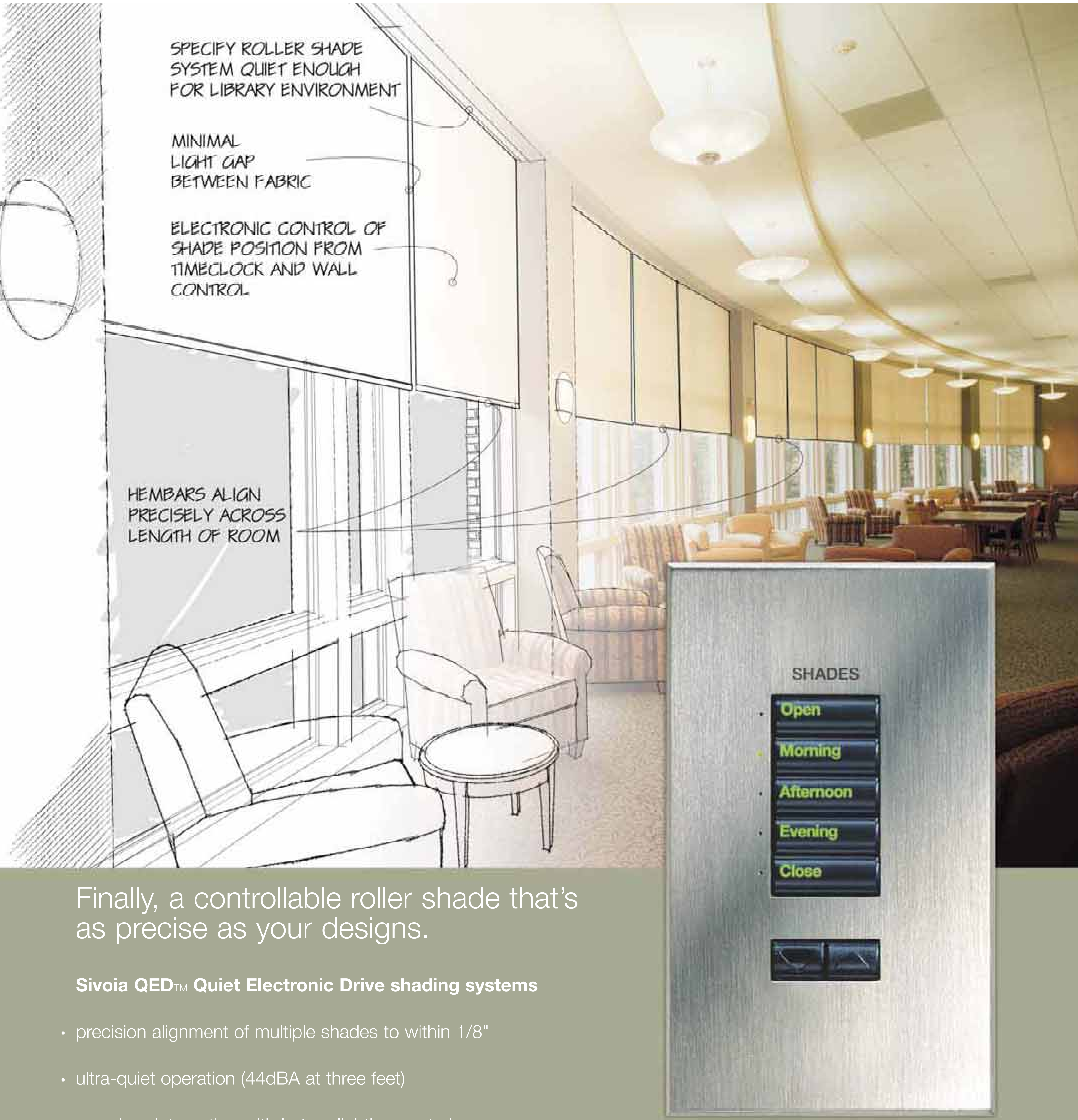
and construction methods that tread lightly so as to do no harm and relate to the ad hoc architectural customs of the valley. Local farmers traditionally cluster buildings to create tree-shaded "comfort zones" for their houses. The visitors' center is composed of three main structures, housing interpretive exhibits and multiuse space, administrative offices, a gift shop, and a café. The three structures are clustered in such a manner as to control shaded areas and garden spaces. They're oriented on an east-west axis, parallel to an irrigation canal on the south, in order to capture the prevailing summer breezes. The buildings face south, east, and west to block the summer sun; on the northern side, vision glass provides views into courtyards and vistas beyond.

THE ARCHITECTS PURSUED FORMS THAT TREAD LIGHTLY SO AS TO DO NO HARM AND RELATE TO THE AD HOC ARCHITECTURAL CUSTOMS OF THE VALLEY.

The exterior clay-block walls made in D'Harris, Texas, provide a highly efficient thermal mass, but they also lend color and texture to the surface. The blocks slow heat gain during high-gain periods and release heat at night. Behind the wall is a deep airspace and radiant barrier to repel additional heat gain before the heat reaches the R-19 insulated wall cavity.

The deeply corrugated, barrel-vaulted roof spans a long distance with less material and eliminates structural redundancies. As compared to traditional truss and deck steel, this system reduces the amount of steel required by 48 percent. However, it serves a critical architectural purpose, as well. "The vaults of arch-panel shell roof are a reaction to a prominent form in the agricultural vernacular of the area," explains principal Robert Harris, AIA. "These practical and efficient shell structures are commonly used for economical barn and storage structures."

"Engineered wood framing was used on the Hawk Tower and viewing blinds for several reasons," explains Harris. "First, it has a more natural feel in a remote habitat area; secondly, it eliminates the potential for unchecked rust. It's an efficient use of wood products to choose engi-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neered material rather than solid stock in larger sizes." Engineered wood has become popular as a substitute for the decreasing supply of old-growth trees. The wood comes from plentiful species, such as aspen and poplar, which typically is engineered into laminated strand lumber (LSL) and treated with a noncontaminant preservative called ACQ, a combination of copper and quaternary ammonium compound dissolved in an alkaline carrier system.

There aren't many projects that call on architects to heal the land while they're fulfilling program requirements, so in some ways, the World Birding Center is an extreme example. On the other hand, it's a textbook case of the invisible process that creates architectural form with meaning that is transparent and comprehensible. Projects such as Lake/Flato's Nursing School/Student Center building at the University of Texas Health Science Center in Houston are more the norm. The university's administration mandated that the school be a model of sustainable design, believing that a building that houses health and wellness programs ought to be healthy itself.

As with the Birding Center, the final result is more than the accumulation of high-performance materials and low-energy systems. But unlike the center, the $57 million nursing school had a complex program, one driven as much by the status a well-designed, state-of-the-art facility brings to an educational institution as by its mandate to be a model of sustainability. Lake/Flato and the Houston office of BNIM Architects collaborated on the school and achieved that coveted LEED Gold rating with all the familiar features. The design incorporates low-embodied energy (made of materials that require less total energy to extract, manufacture, transport, construct, maintain, and discard), local materials, daylighting, 60 percent reduced building water consumption, and natural gray/black water treatment systems. Its sophisticated envelope is tuned to respond to the climatic conditions of Houston, including operable windows and spectrally selective glazing.

Principal Greg Papay, AIA, explains the process by describing the final product. "In the end, highly sustainable building does much to emulate nature and natural systems. While it's easy to tell the visual difference between a branch and a leaf, just as it is between, say, a facade and the structural system, the two by necessity are highly integrated, each supporting a larger whole, each other, and the subsystems within their components," he explains. "In essence, there is a continuum and an interdependence. So the best way for the process to produce that product is for the process to share the same approach."

In his book, Fernandez warns against the temptation to "distill an essential meaning from the materials themselves." The warning applies to the assignation of value to architectural form simply because it's infused with quantifiable sustainable features. Lake/Flato's process prevents its work from falling into this trap. The firm appears to adhere to Fernandez's dictum that "it is in a material's use that value is struck and intention fulfilled—that is, transformation toward meaning from lowly material to humane building is achieved through the action of deep values." ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "New Technologies Create New Challenges" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers (page 198).**
- **Fill out and submit the AIA/CES education reporting form (page 198) or download the form at www.archrecord.com to receive one AIA learning unit.**

QUESTIONS

1. Design and construction, research and commercial application, are bound together by which?
a. research
b. the architect
c. building process
d. technology

2. Applied research is the search for which?
a. theories
b. test results
c. isolated inquiries
d. commercial applications

3. Expanding knowledge to include advances in material science and engineering is known as which?
a. biomedical engineering
b. technology transfer
c. innovation
d. exploration

4. Gore-Tex products were originally meant to provide solutions for all except which use?
a. protective outerwear
b. cable assemblies for electronics
c. medical implants
d. high-performance fabrics

5. Textiles require details that restrain them along their edges for which reason?
a. to resist raveling
b. to resist compression
c. they can extend for hundreds of yards
d. they have strength in tension

6. A building facade's framing members can be placed at fewer intervals for which reason?
a. textiles can be continuous up to 300 yards
b. textiles have high-tensile strength
c. textiles are ineffective in compression
d. textiles can close up a building faster than glass-and-metal frame assembly

7. The unusual program of the World Birding Center demanded a design process driven by all except which?
a. restoration
b. demonstration
c. nontraditional materials
d. reclamation

8. Southeast Texas building customs influenced all aspects of the architectural design except which?
a. buildings face south to block the summer sun
b. deep porches and covered circulation
c. buildings clustered to create comfort zones
d. use of engineered wood framing

9. The corrugated-metal, barrel-vaulted roofs on the Birding Center buildings allow for which?
a. slow heat gain
b. maximum water collection
c. grain storage
d. no need for insulation

10. Engineered wood framing was used on the Hawk Tower for the following reasons except which?
a. it has a more natural feel than steel studs
b. it eliminates the potential for rust
c. it is a better use of forest woods than solid stock
d. it does not use preservatives

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Tech Briefs

A Frank Lloyd Wright icon will rely on an energy-efficient HVAC system for better interior comfort • Can architects reverse global warming? One designer thinks so—and says why

Unity Temple will use geothermal energy after its first major restoration

Frank Lloyd Wright's 1908 Unity Temple in Oak Park, Illinois, is considered an early Modernist masterpiece for its compact monumentality and the striking planar geometry of its cast-in-place concrete. Although its interior ranks among the great public spaces of the 20th century, it proved uncomfortable almost from the start. An advanced but poorly executed heating scheme meant noisy radiators in colder months, and the lack of air-conditioning and proper ventilation made the building a sauna in the summer.

Last year, the church's Unitarian Universalist congregation joined forces with the Unity Temple Restoration Foundation to kick off the building's first major restoration, which is slated for completion in 2009—the centennial of the building's dedication. A significant component of the $12 million to $15 million project addresses the building's HVAC problems by installing a new ground-source pump system for heating and cooling. The project will also involve repairs to the temple's reinforced-concrete structure, as well as improvements to interior woodwork, lighting, and art-glass windows; a new electrical system; and changes for ADA compliance, including the installation of an elevator.

The project team, consisting of architect Gunny Harboe of Chicago and engineers Architectural Consulting Engineers (ACE) of Oak Park, must balance the needs of the congregation with strict preservation requirements for the landmarked building, which comprises a temple, meeting hall, and entrance hall. "The original users are still occupying Unity," says Harboe, principal of Gunny Harboe Architects of Chicago. "So it must still function as a place of worship, despite the fact that it's also a major tourist attraction and one of the most significant Wright buildings in the world."

New HVAC efficiencies

In improving the building's thermal comfort, the congregation wanted to use a system that would reduce operating costs and have relatively few adverse effects on the environment. Ultimately, the design team developed a system of geothermal wells, drilled to a probable depth of 300 feet. The design calls for a closed-loop fluid circulation system that will carry an antifreeze formula of glycol, ethanol, or another environmentally benign substance. It also has provisions for an ice-storage system for producing ice overnight to reduce the required chiller capacity, according to Mark Nussbaum, principal of ACE.

Nussbaum and his team are still finessing the number of wells and their exact depth. But he says adding the water loop and ice-storage capability does not add significantly to the cost of the project, particularly given the reduced chiller capacity it affords.

The new HVAC system will also mostly fit within the existing utility trenches and ducts at Unity, lessening the impact on the original structure.

In a bit of function following historic form, the geothermal scheme will be augmented by radiant heat by converting Unity's existing radiator units. When the building opened in 1909, its radiators were connected to a forced-hot-air system—not common in its time—that was fed by a coal-fired steam boiler. But the system performed so poorly that Trinity's congregation converted the radiators to steam heat in 1910, according to Nussbaum. The boiler was later converted to oil in the early 20th century, and to natural gas by the 1970s. During the current renovation, a high-efficiency natural-gas boiler will replace the latter to provide backup heat and heat for cooking.

The new scheme's demand-controlled ventilation system, which is triggered by carbon dioxide levels (a proxy measurement for the number of occupants in the building), is tailored to the needs of both users and the historic building fabric. "The system brings in only enough fresh air to meet actual needs, and it allows for a porous building," Nussbaum says.

This last point is important because Unity's single-glazed leaded art glass is porous and difficult to control thermally. But measures like storm glazing would compromise the building's aesthet-

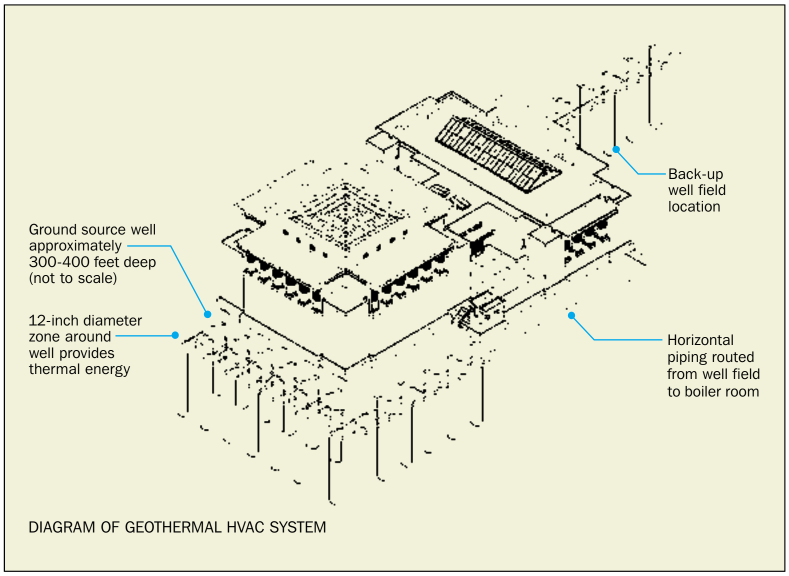
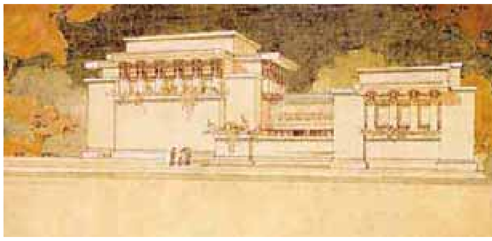

Ground source well approximately 300-400 feet deep (not to scale)
12-inch diameter zone around well provides thermal energy
Back-up well field location
Horizontal piping routed from well field to boiler room

DIAGRAM OF GEOTHERMAL HVAC SYSTEM



A new geothermal system for Wright's Unity Temple (schematic above) will improve indoor comfort and help slash heating and cooling costs by up to 50 percent. Wright's cast-in-place concrete structure broke the mold for religious buildings when it was finished in 1908.

IMAGES: COURTESY UNITY TEMPLE RESTORATION FOUNDATION

ics and could also create moisture problems, according to the designers. Nussbaum says the overall HVAC design doesn't require an airtight building to work efficiently. "We don't have any delicate museum artifacts here," he says, "so we can improve indoor comfort without damaging the building's shell, which is pretty hardy."

ACE used software to model the structure's energy performance, even though its as-built conditions have never been fully documented. "It's difficult to do energy modeling for a building when we don't thoroughly know its construction," he says. "There are some voids in the masonry walls, for instance, but it's not clear exactly where they are."

The models, then, approximated the building's performance with its present equipment and consumption levels. Overall, the calculations show improved efficiency during the heating season, which should compensate for the new cooling load. "We expect to see a 40 to 50 percent reduction of utility bills over what a conventional HVAC system costs," Nussbaum says. Another benefit of the geothermal system is that it typically provides an 80 percent reduction of source emissions compared to systems powered by fossil fuels, he says.

Making the old new again

Aside from the HVAC improvements, the rest of the renovation ranges in complexity. Wright's cast-in-place concrete structure was innovative for its time, and structurally it is still in good shape overall, according to Harboe, despite some cracks and spalling. "We're not anticipating replacing rebar," he says. "The major work was the overhangs," he says. Unity's signature heavy eaves were rebuilt several years ago.

The temple skylight requires significant restoration. "It's our intent to go back to the original design. There is some of the original fabric, but there's a question of how much we can reuse," says Harboe.

A photo dated 1925 shows a women's group that may have been part of Unity's early congregation.

Many layers of paint coat the interior oak woodwork, most of which is original. "Ultimately, we'd like to remove the paint and go back to Wright's original finish, which was a clear resin," Harboe says. Wright also applied color washes directly to the interior's plaster walls; the restoration team is making mock-ups to replicate the original washes.

The restoration team will also reevaluate Unity's previous, periodic maintenance program to see if changes are needed.

One concern for the interior is that the planned changes, such as the new mechanical systems, air handlers, and the like, might affect the original temple's excellent acoustics. The work is being reviewed by an oversight team of architects, engineers, and preservationist specialists, who pore over details to mitigate any physical and aesthetic intrusions, and ensure they are reversible, if necessary.

"We want to make sure we do no harm," Harboe says. "I think it's doable without any major gymnastics." *Ted Smalley Bowen*

PHOTOGRAPHY: COURTESY UNITY TEMPLE RESTORATION FOUNDATION

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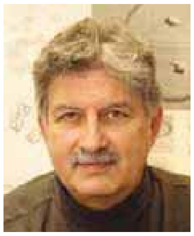
A Santa Fe architect calls for carbon-neutral buildings in the next quarter century



PHOTOGRAPHY: COURTESY EDWARD MAZRIA

In January, Edward Mazria, AIA, launched the Web site Architecture 2030 *(www.architecture2030.org), where he explains the link between buildings and global warming and calls for all buildings to be carbon-neutral by the year 2030. Mazria, who's done extensive research on building energy use, talked with* RECORD *about the urgency of his proposal and how the design community will achieve it. (For the full text of the interview, log on to greensource.construction.com.)*

ARCHITECTURAL RECORD: *Your research has determined that buildings are responsible for half of all greenhouse gas emissions worldwide. How did you come up with that figure?*

MAZRIA: I developed a way to look at buildings as a sector of the economy, the way the industrial and transportation sectors are tracked. I defined the building sector to consist of what we, as architects, control. When we design a building—its orientation, massing, fenestration—we set in motion its energy consumption pattern. And we also control what materials buildings are made from. In my calculations, I included the energy use of buildings as well as the embodied energy of construction materials.

AR: *So, how did you determine that designers have less than 25 years to figure out how to make carbon-neutral buildings?*

MAZRIA: This is based on climate research done by the European Union. Their scientists have determined that the maximum amount of global warming the planet can tolerate is 2 degrees Celsius. If we continue on our current path, we'll achieve that rise by about 2050, and we'd reach a rise of three degrees Celsius by 2070. With a temperature rise that high, the consequences are catastrophic—the polar ice caps would melt, warmer ocean temperatures would result in severe weather patterns, and we could lose 25 percent of the species on the planet. To avert the two degrees centigrade rise by 2050, scientists say we need to reduce total worldwide carbon emissions by that date by 40 to 60 percent below 1990 levels, which was the benchmark set by the United Nations. For buildings, this means we must rely less and less on fossil fuels for energy. When you back-calculate how much energy buildings consume, combined with the temperatures predicted by these scientific models, you come up with a very rapid time frame: reducing fossil fuel consumption of buildings by 50 percent by the year 2010, and 10 percent more every five years until we achieve carbon-neutral buildings by 2030.

AR: *The AIA has endorsed your point of view with a major policy statement released in December. What steps need to be taken to achieve these goals?*

MAZRIA: As architects, we can design more energy-efficient buildings and also specify materials that have low embodied energy and are made with clean energy sources. Educators and regulators must adopt better energy standards for buildings. We're working with architecture schools and all levels of government to make sure this happens. Most important, we must also change the building codes in the U.S. It's a huge effort, yes, but critical to the future of the planet.

Interviewed by Deborah Snoonian

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Lighting

Louis Vuitton's expressive lighting relies upon a standardized set of custom-manufactured fixtures

BRIEFS

Ultimate Lighting Design (teNeues, 2006) is a jumbo-size (512 page) monograph surveying the architectural lighting projects of the firm L'Observatoire International. Led by principal designer Hervé Descottes, the team has an impressive portfolio. It has collaborated with architects including Frank Gehry (Walt Disney Concert Hall and Bard College's Fisher Center for the Performing Arts); Diller, Scofidio + Renfro (Lincoln Center and New York's High Line); and OMA/Rem Koolhaas (three museums in Korea), among many others. **Yet this is largely a look book** of glamorizing photos. The text explaining the lighting design of 64 international projects is often only two or three sentences long (albeit translated into five languages). At times, the text is more evocative than informative: To describe a collaboration with Steven Holl, for example, the book reprints an early lighting concept the firm wrote in free verse(!). The lack of description is abetted by some cross-section and axonometric illustrations of fixtures, plus a section on custom luminaire designs. Perhaps a photographic compendium of many illuminated building types suits you. The ultimate treatment? Not really. www.teneues-usa.com.

Transformed by Light: The New York Night is an exhibition currently at the Museum of the City of New York that reveals how electrical illumination shaped the legend and experience of the city. On view through May 7, the show immerses visitors in a series of environments that portray the essential role of architectural lighting in the construction of New York life—on the street, at home, in the office, and on the town. Artifacts range from **Rockefeller Center Christmas tree bulbs** to a giant neon letter *i* that once towered over Columbus Circle. The exhibition was curated and designed by Chicken & Egg Public Projects, and it features **lighting installations by 10 firms**: Available Light; Brandston Partnership; Horton Lees Brogden Lighting; Bouyea & Associates; Jim Conti Lighting Design; Focus Lighting: Gallegos Associates; Naomi Miller Lighting Design; Tillett Lighting Design; and Tirschwell & Co. The Illuminating Engineering Society of North America sponsored the show, with additional support from major lighting manufacturers. www.mcny.org.

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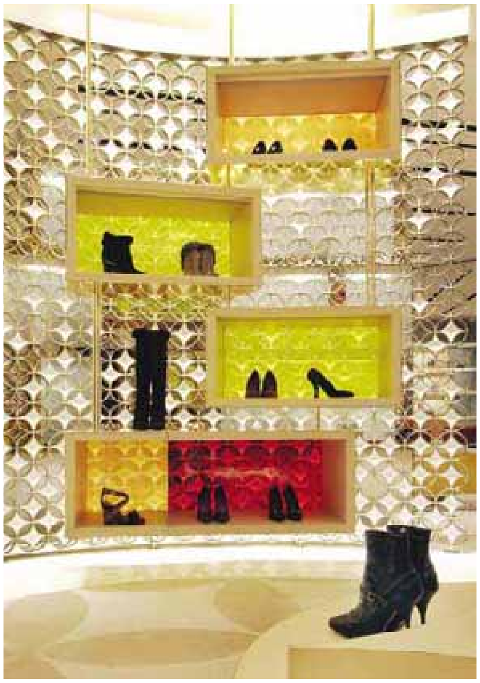
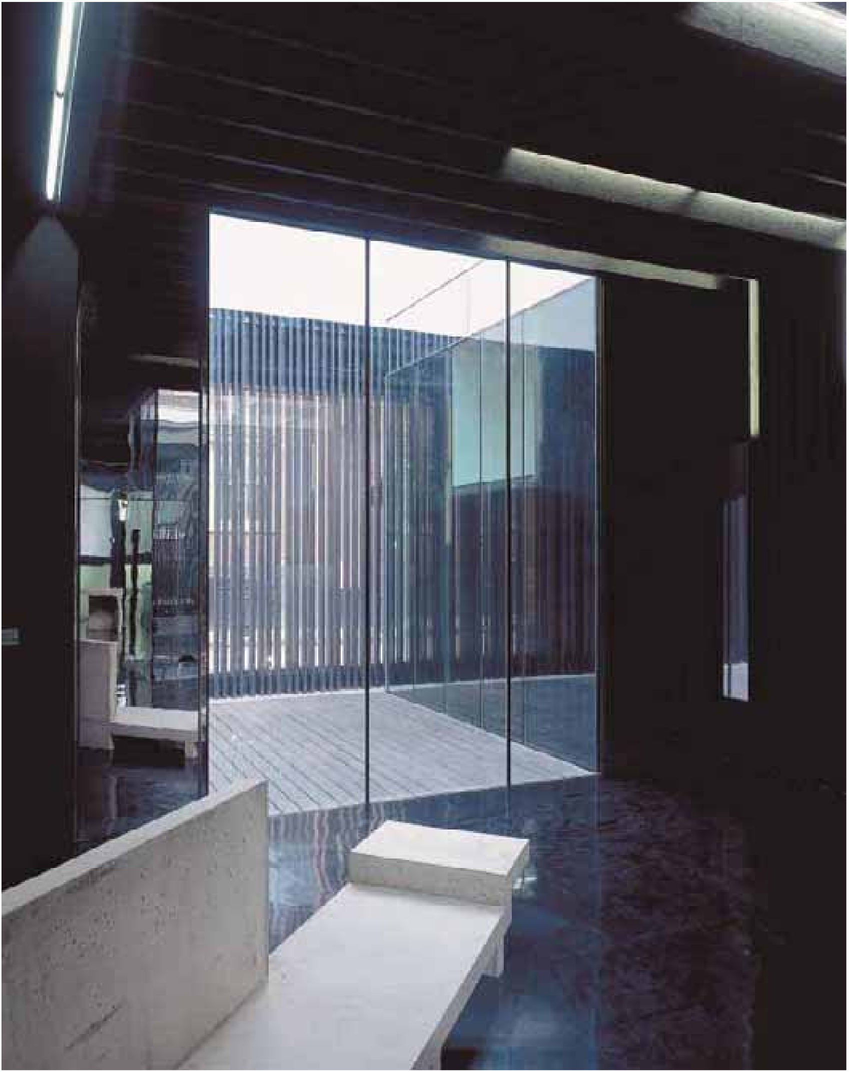
To love beauty is to see the light," wrote Victor Hugo. In the writer's beloved Paris, a new Louis Vuitton store is swathed in interior lighting in part inspired by the filtered light and shadows of the streetscapes Hugo prized. Achieving the store's engaging effects was not only a matter of aesthetics, however. Lighting designer George Sexton Associates has refined and standardized a kit-of-parts system of custom fixtures that creates signature lighting in all the brand's international flagships. "Like museum lighting, which requires a high degree of control, retail lighting now demands the same degree of care," says principal designer George Sexton. "Lighting is very integrated into the architecture, and shouldn't overwhelm what's on view." Read on, to learn how this retail space shines in the City of Light. *William Weathersby, Jr.*



PHOTOGRAPHY: © JIMMY COHRSSEN



The living room's black-resin floor reflects daylight from the entry courtyard (above). Ceiling slots are lined with fluorescents. Fluorescents juxtaposed against the colorful interior walls frame a courtyard with a view of the main building (below). They also light the Minimalist kitchen (opposite).

PHOTOGRAPHY: © LYNDON DOUGLAS

For London's **Lost House,** Adjaye Associates carves a residence that captures changing qualities of light

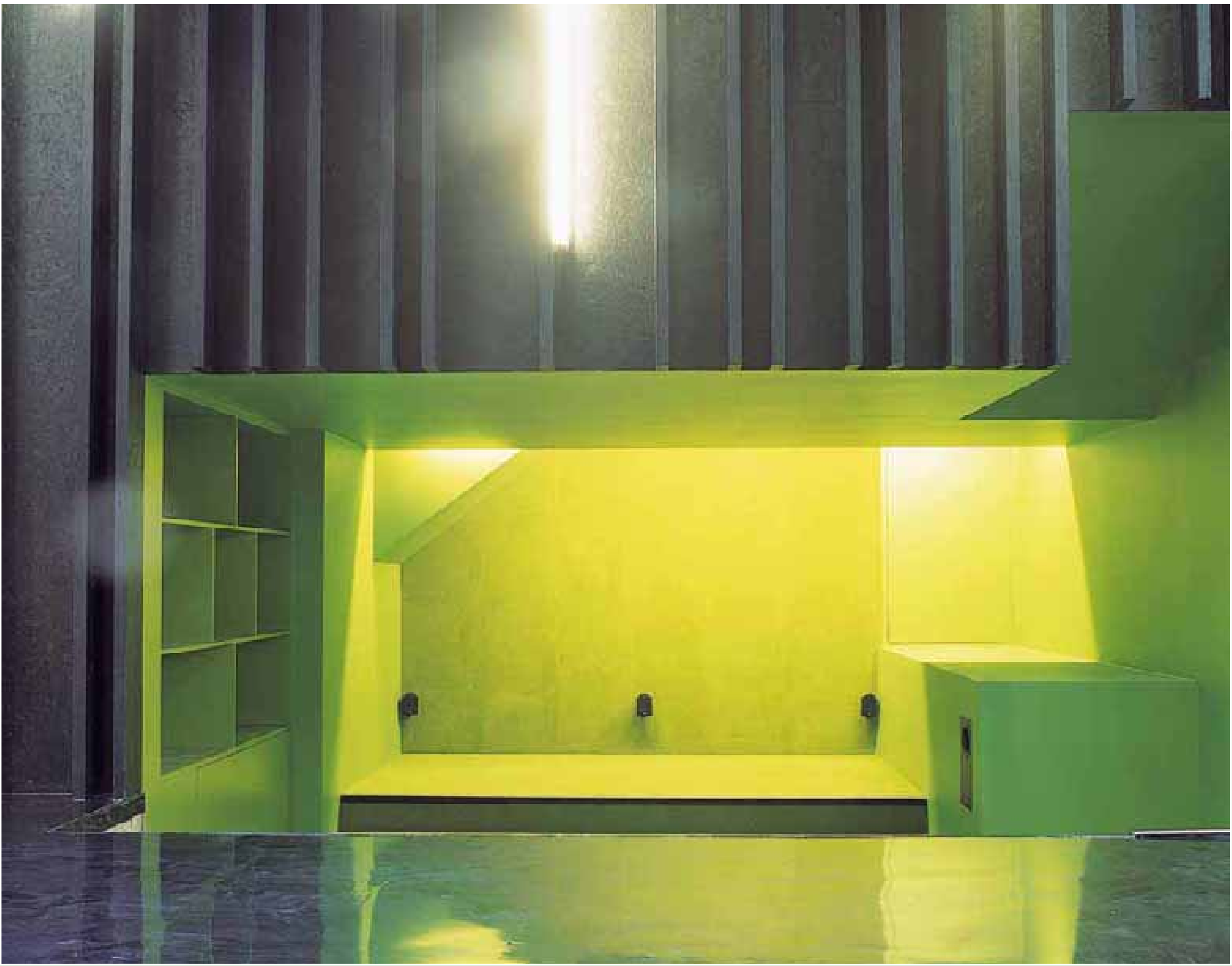
By William Weathersby, Jr.

Over the past six years as principal of his own firm, David Adjaye has gained a reputation as one of Great Britain's most promising young architects. His series of conceptually driven houses and apartments strip away artifice to revel in bold Minimalism [RECORD, December 2002, page 126]. Although he has begun to tackle international projects on a larger scale, such as the commission for the Denver Museum of Contemporary Art, Adjaye continues to approach residential projects in London as intimate laboratories for experimenting with color, light, and form.

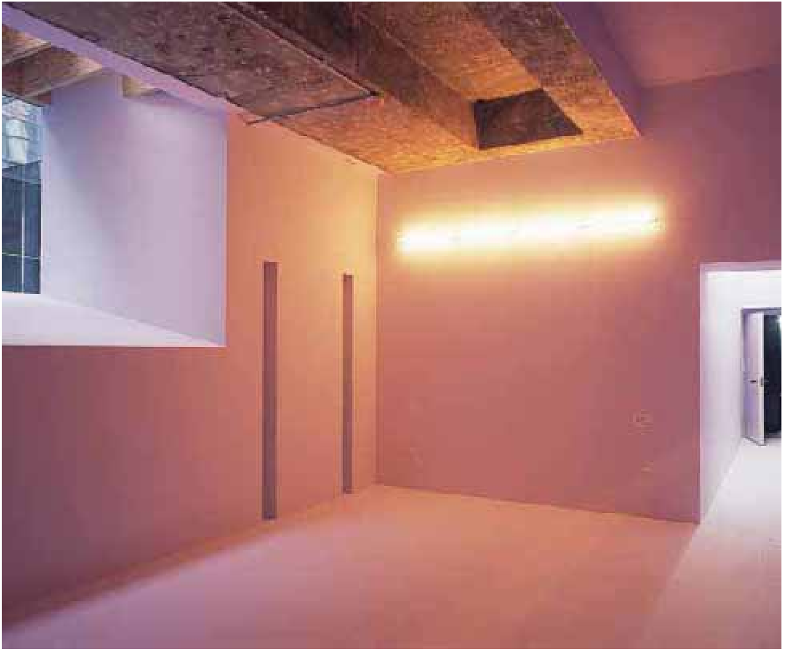
With the architectural and lighting design of Lost House, a two-bedroom apartment in the King's Cross neighborhood, Adjaye has created a mysterious urban retreat that evokes a hidden lair. The residence is a study in the balance between darkness and light, absorption and reflection. A series of light wells, internal courtyards, and skylights harness diffused daylight, while dimmable exposed fluorescents set against intensely colored walls provide moody illumination.

Commissioned by a fashion designer (who previously studied architecture) and her apparel-executive husband, Lost House overhauls and expands a space that was already converted from industrial to residential use in the early 1990s. The apartment's footprint once was the loading dock and courtyard of a warehouse built in the Victorian era and modernized in the 1930s, and most recently was annexed as part of the apartment building. Hemmed in and mostly hidden by the surrounding taller facades of the rest of the complex (hence its "lost" appellation), the existing one-level apartment featured nondescript, white-walled rooms that were mostly windowless except for one elevation's views onto a windswept garden that remained in shadow much of the day.

To expand interior living space while retaining a connection to the outdoors, Adjaye enclosed most of the courtyard but carved out three glass-enclosed interior gardens open to the sky to serve as focal points. The gardens decrease in size as one moves diagonally through the plan. The front entry garden features a wood deck and looks onto the street through a screen of black timber strips fitted into the former truck bay. A central garden features a small pond. The top band of this space's glass enclosure is edged in mirrors to further reflect daylight and the movement of water, visible from within the surrounding rooms. The smallest light court, a pivot point between the kitchen, a bathroom, and one end of the main living space, encloses a small mound of earth and an evergreen tree: a stylized garden. "The three courtyards function as their own sculptures, encompassing changing light and weather conditions," Adjaye says. "I wanted to look at how light comes into an interior as a phenomenon, not through the apertures of standard windows."



The media room, a sunken space just off the living room, features shelves, paneling, and platforms that create a sculptural landscape with luminous chartreuse surfaces (above). Fluorescent lighting is both exposed and concealed. In the master bedroom, each wall is painted a slightly different shade of lilac to play with light (right). Rather than a window, the mirrored aperture reflects daylight from a light well in the ceiling, "a periscope effect," Adjaye says.



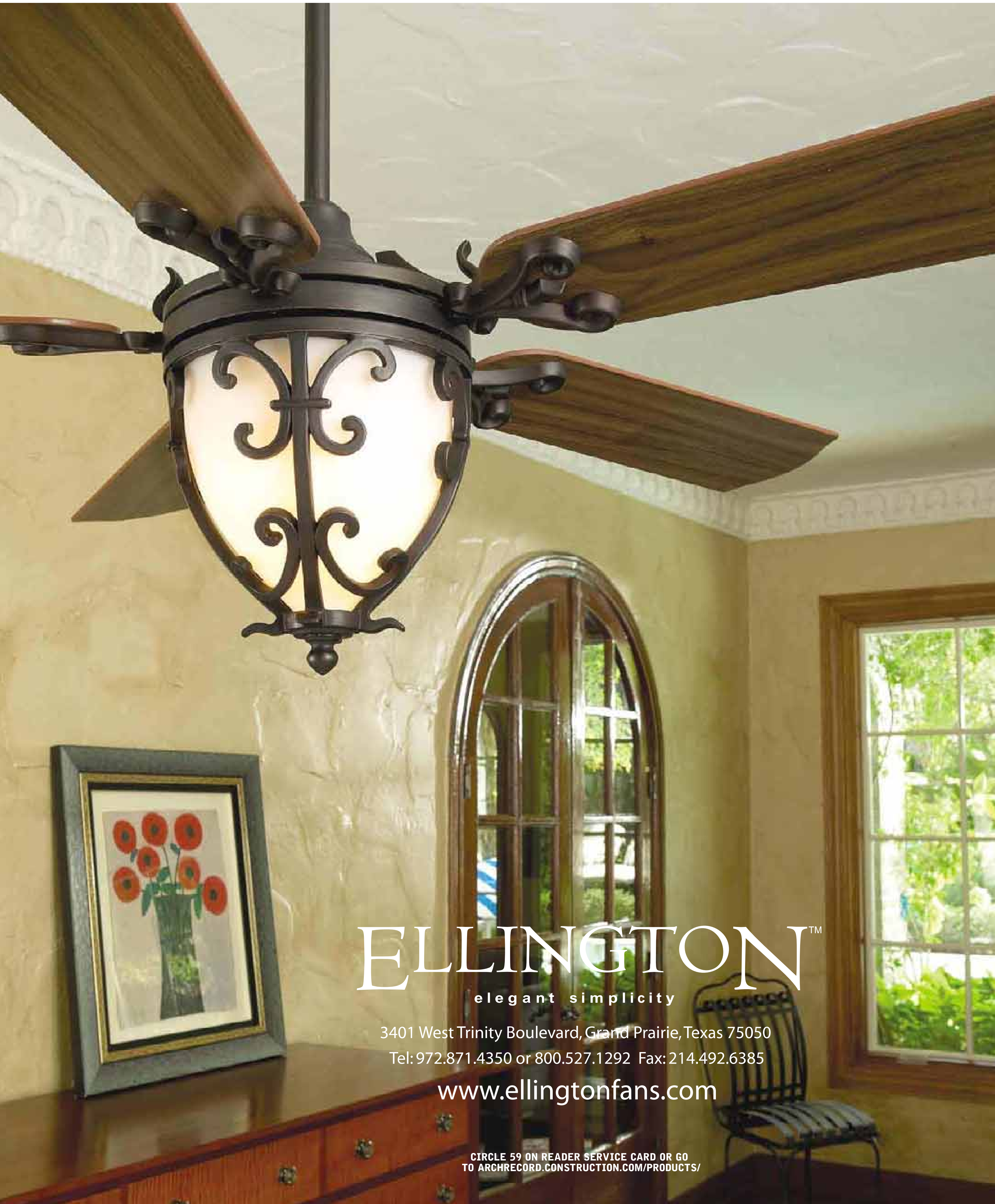
The open-plan main living space features a shiny black-resin floor and black-stained timber walls. The black surfaces visually expand the space and create a dark void into which daylight filters through the glazing. "The living space's darkness intensifies the perception of the daylight coming in from the courtyards," notes Adjaye. Exposed, dimmable fluorescents line the edges of the black walls for ambient light, and frame the glazing. Bordering one side of the space, a step-down, sunken media area is painted chartreuse for a dramatic contrast. Here, both exposed and concealed fluorescents emphasize the pocket space's vibrant color.

In the master bedroom, each wall and the carpeted floor is a slightly different shade of lilac, while the second bedroom achieves a similar effect in tones of mint green. The gradation of color heightens "the perceptual and psychological effects of how light interacts with the architecture," Adjaye says. Rather than windows, light wells in the ceiling of each bedroom allow daylight indoors, which is reflected in horizontal mirrors set into apertures with canted edges. Also fitted with exposed fluorescents, the rooms become engaging, three-dimensional color fields that are foils for changing conditions of light. ■

Project: *Lost House, London*
Architect, lighting designer: *Adjaye Associates—David Adjaye, principal; Josh Carver, Craig Tan, Ixone Altube, Mattus Vallo, project team*
Structural engineer: *Price & Myers*
Contractor: *RJ Parry*

Sources
Fluorescents: *Philips Lighting*
Glazing: *Profile Glass*
Moss roof: *Erisco Bauder*

For more information on this project, go to Lighting at **www.archrecord.com**.



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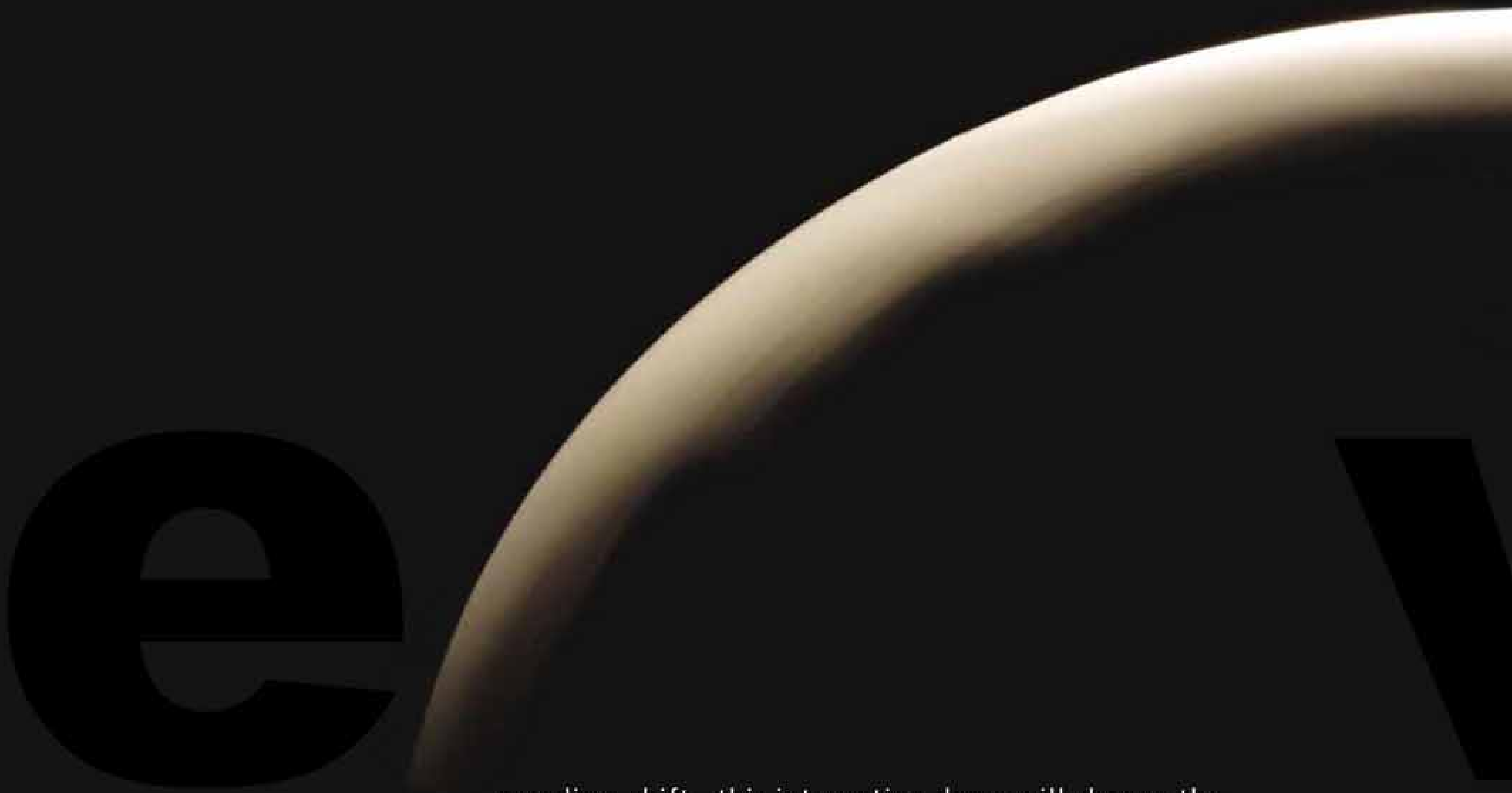

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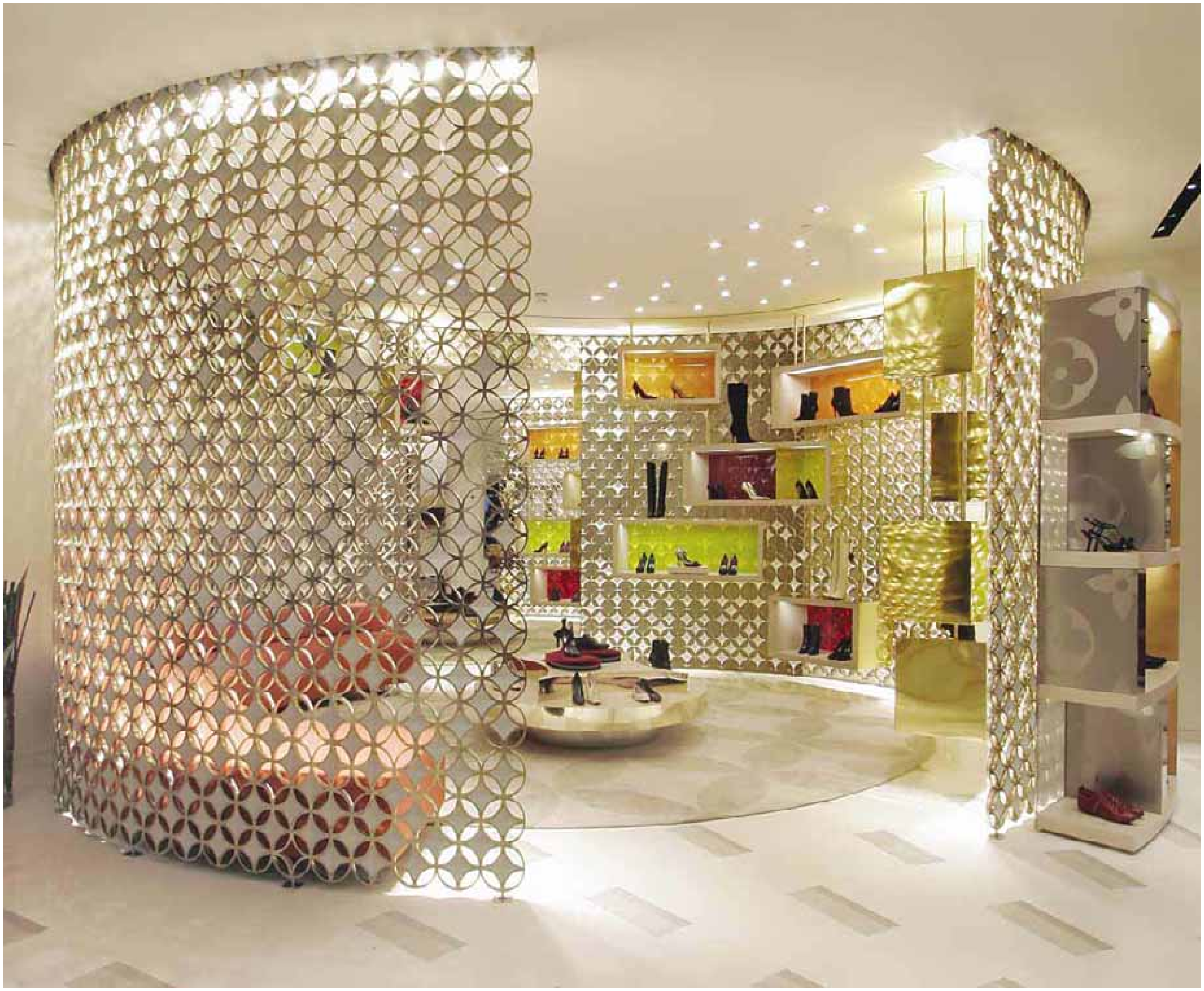


PHOTOGRAPHY: © JIMMY COHRSSEN

George Sexton Associates wraps **Louis Vuitton** with glittering, layered light inspired by Parisian sunsets

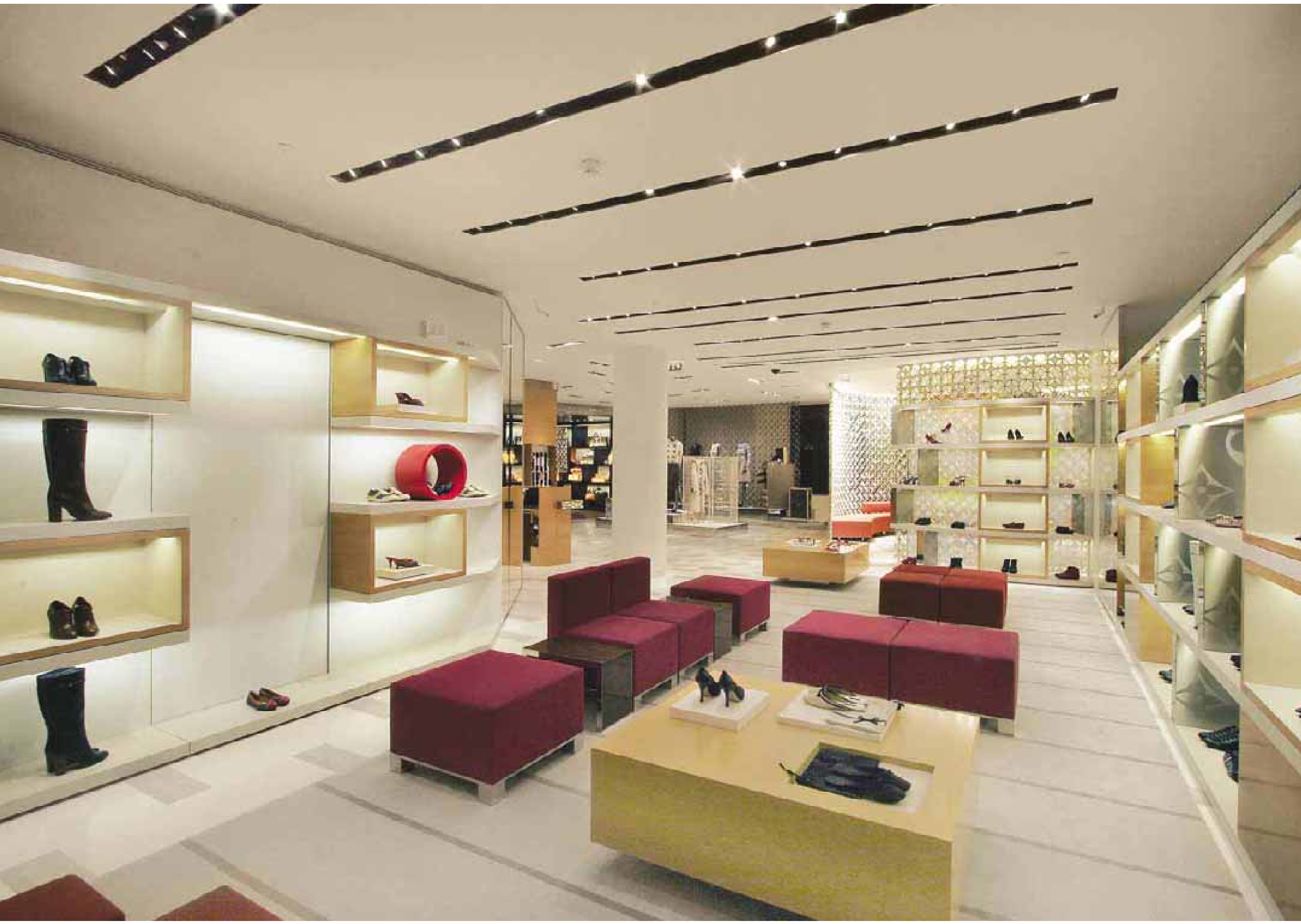
By Robert Such

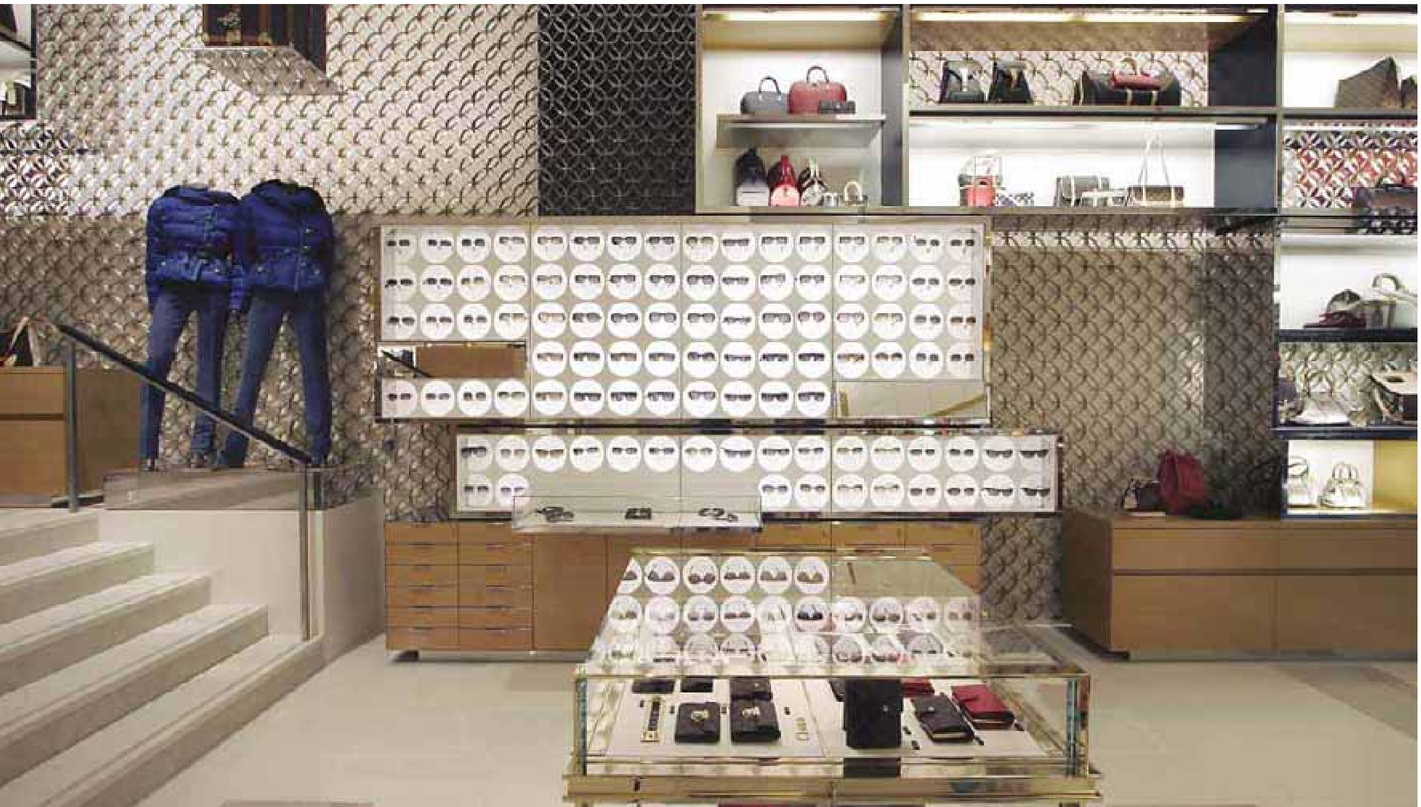
In recent years, the French luxury retailer Louis Vuitton has blazed a trail as a trendsetter in retail architecture, constructing blockbuster stores in Tokyo [RECORD, February 2004, page 143], New York, and Hong Kong. Last fall, it unveiled another showstopping venue on the Champs-Elysées in Paris. Sitting across the street from the site of the original LV shop built in 1914, the new 20,000-square-foot flagship turns a shopping trip into a promenade along a succession of dramatic interior terraces. Inspired in part by the dappled light of Parisian sunsets, multilayered illumination by George Sexton Associates (GSA) creates a glittering backdrop for the luxury goods on display.

For this project, a renovation of a 1931 building originally housing the Maison de France, the government tourist office, GSA again collaborated with a team of architects who are also LV veterans. The Louis Vuitton Architecture Department, headed by David McNulty, oversaw the project. Carbondale, a firm led by architect Eric Carlson (who previously ran LV's in-house department), designed the facade alterations, interior space plan, mesh panels, atrium, and escalator image wall. Peter Marino Associates orchestrated furniture, displays, floors, and wall finishes.

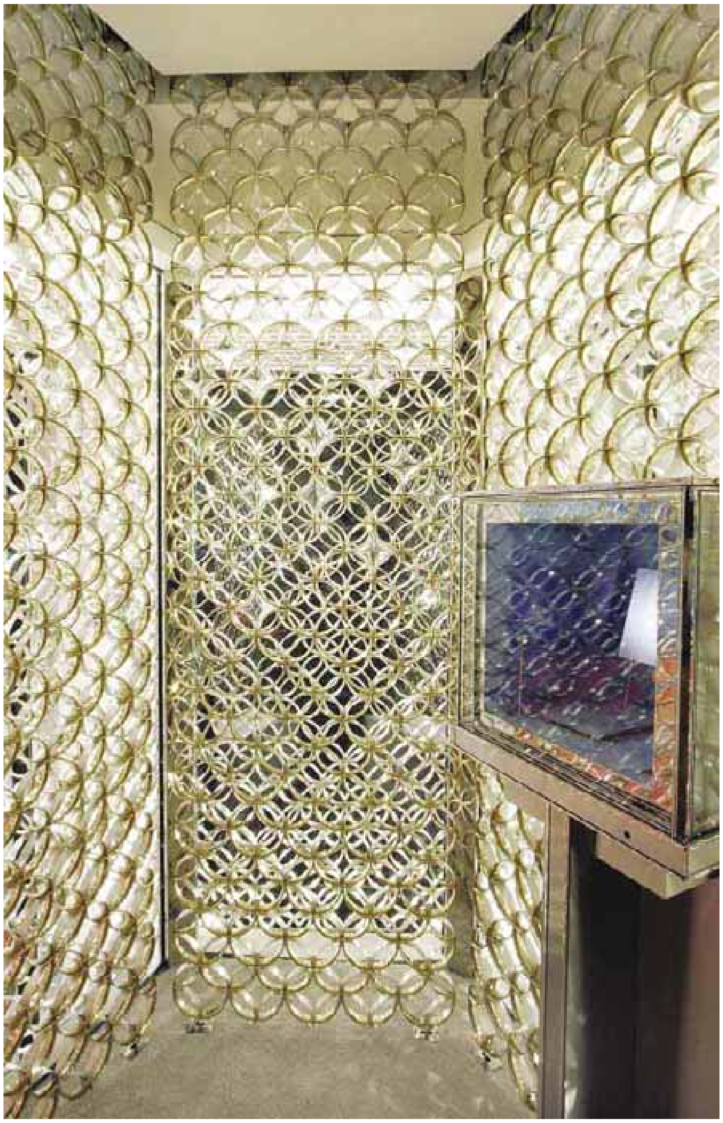
Robert Such is a writer and photographer based in Stoke-on-Trent, England. He frequently writes about international architecture and lighting design.

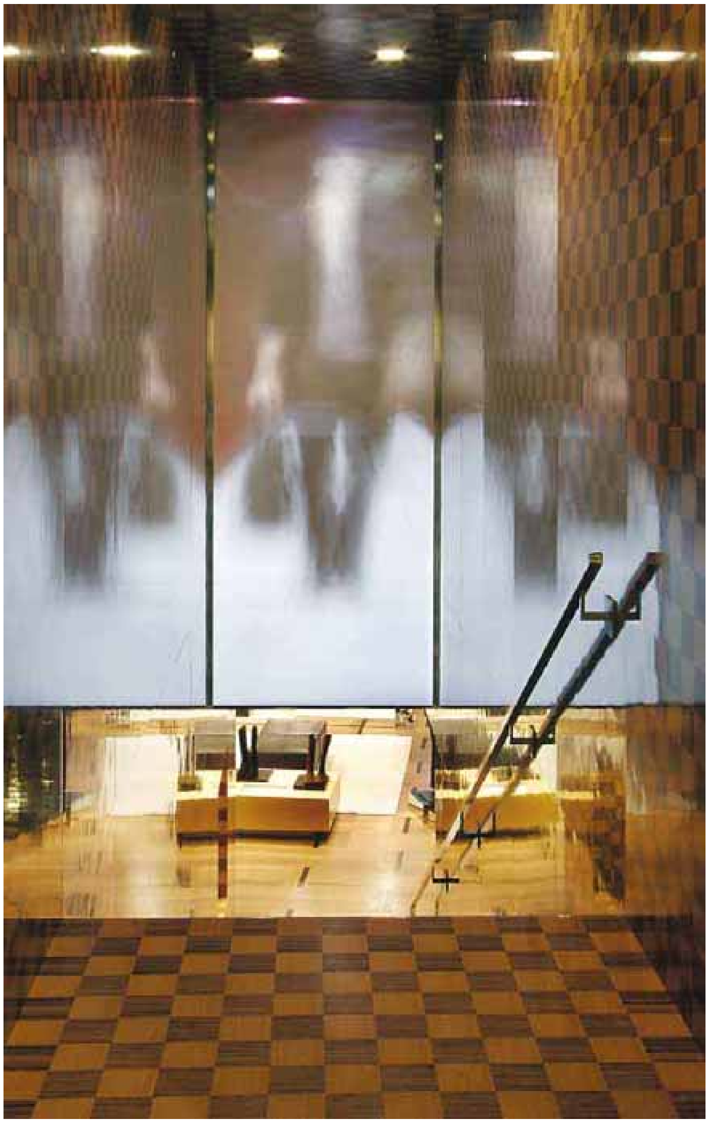
Project: *Louis Vuitton, Paris*
Lighting designer: *George Sexton Associates—George Sexton, principal designer*
Architects: *Carbondale (facade and interiors)—Eric Carlson, Cristiano Benzoni, principals; Peter Marino Associates (furniture, finishes)*
Associate architect: *Barthelemy-Grino Associates*
Design management: *Louis Vuitton Architecture Department*

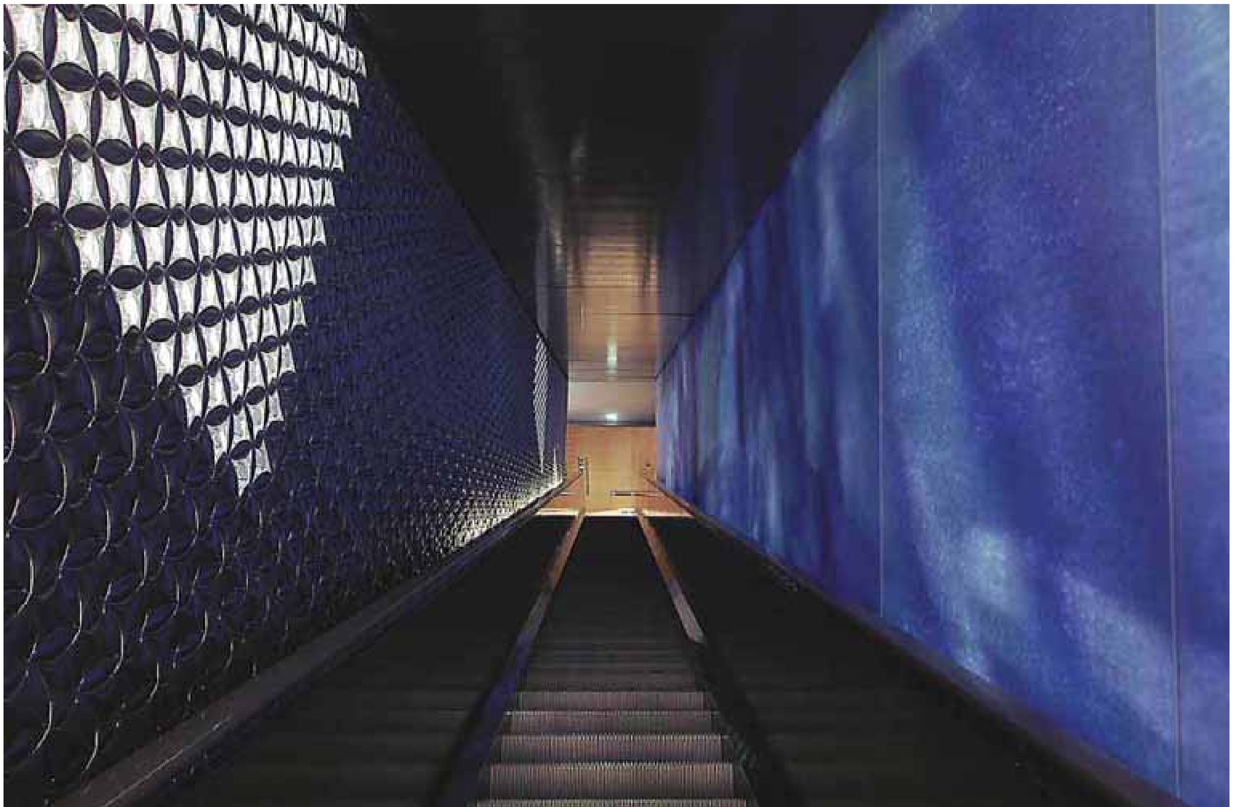




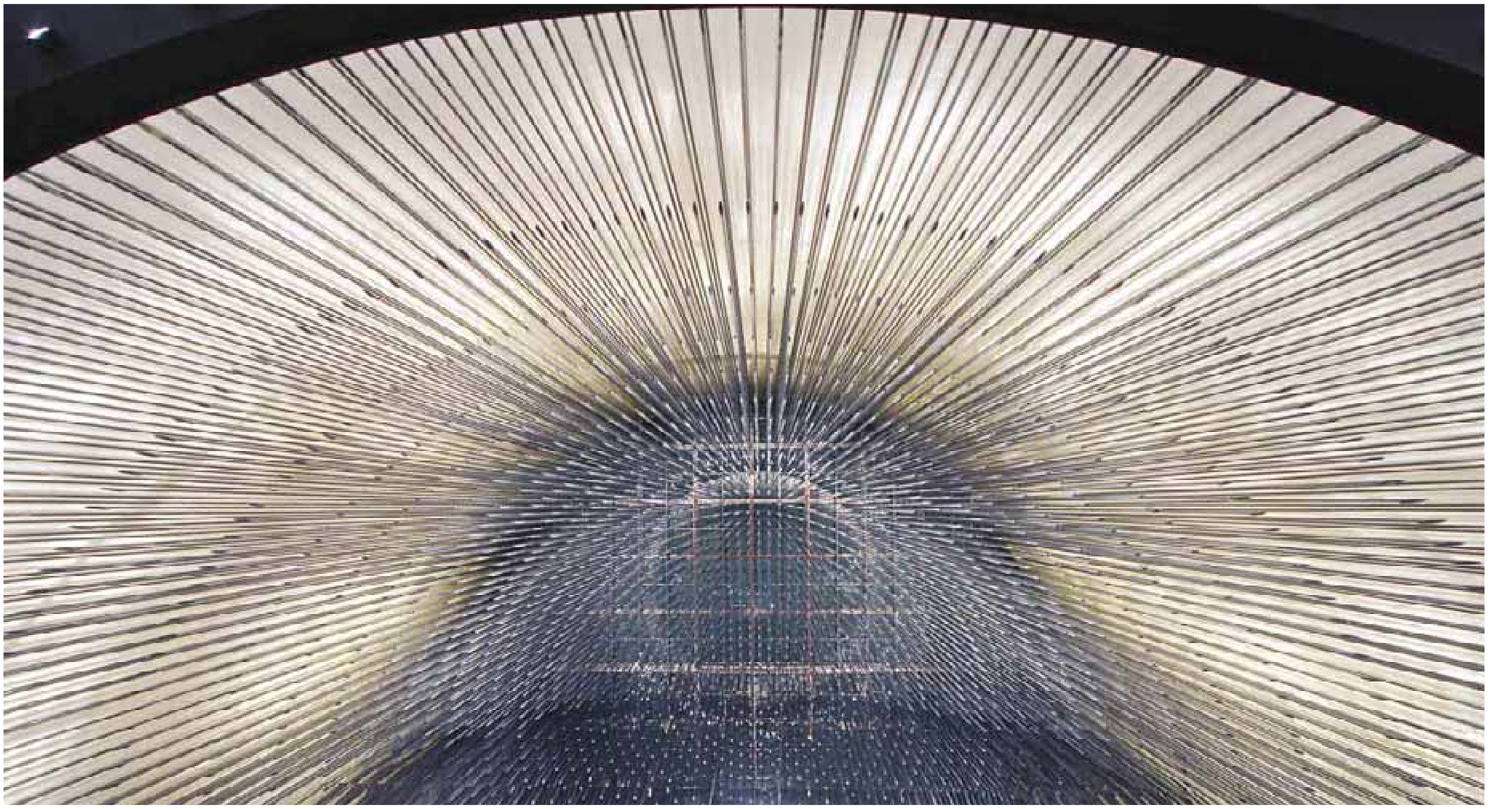
Mesh-screen partitions (opposite), which incorporate the company's signature diamond-and-leaf motif, are lit with PAR20 metal halides. GSA developed a kit-of-parts system of custom fixtures used in every LV store, including concealed fluorescent tubes for shelving and MR16 downlights (left and above).







At the center of the store, an enclosed 70-foot-long escalator turns conveyance into art appreciation (left). Twelve panels comprising 720,000 fiber-optic points make up the abstract installation *Alpha*, the work of American video artist Tim White-Sobieski. Elsewhere, projected videos (above right) and illuminated mesh screens (above left) enhance circulation routes.

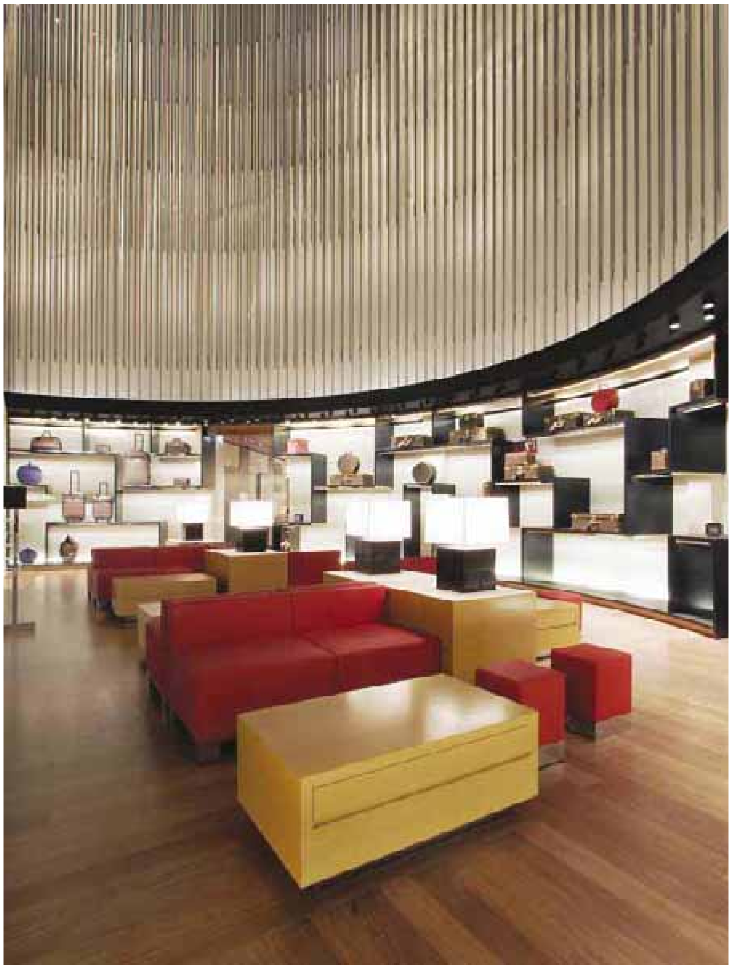


Carlson conceived of the promenade layout concept, dispensing with standard enclosed retail floors and instead carving out volumes within the existing structure to create multiple platform levels that promote fluid movement. Throughout, brass-mesh panels partially screen windows and serve as buffers between retail zones. Fitted into a slot along the upper edge of each mesh panel, metal halide PAR20 lamps graze the screens along the windows and blend with daylight for a dappled effect. Where the partitions serve as area dividers, they take on the appearance of outsize sparkling bracelets linked together. Inlaid at different points with leather, glass, porcelain, and wood, the illuminated mesh skin evokes a lighting effect Carlson observed on a walk through Paris. "When the sun sets on a street axis in the late afternoon," he says, "the light washes over wrought-iron balustrades, creating a glistening secondary facade."

Along the promenade and down through a spiraling walkway, halogen MR16 spotlights set into ceiling slots provide ambient and accent lighting. Additional MR16s wash plaster walls and graphic panels. Inside display cases, T5 fluorescents crisply illuminate jewelry and accessories.

Louis Vuitton also commissioned artworks by light artist James Turrell and Danish artist Olafur Eliasson to enrich the shopping experience. And located in the building's former courtyard, now a six-story volume in the center of the store, a dramatic array of 1,900 hanging steel rods refracts light as an impressive canopy. Washing the curved inner surface with warm light, AR111 tungsten halogen fixtures are hidden within a ledge set along the lower rim of the semicircular steel curtain.

The lighting effects dazzle, but practicality was also a priority. "One challenge was to carefully budget energy usage," Sexton says. "The atrium's complex HVAC requirements limited use of electrical energy for lighting." To light the dome, for example, the team bypassed metal halides and instead specified less-expensive, lower-wattage tungsten halogens, but in greater quantities, to generate sparkle and even illumination. ■

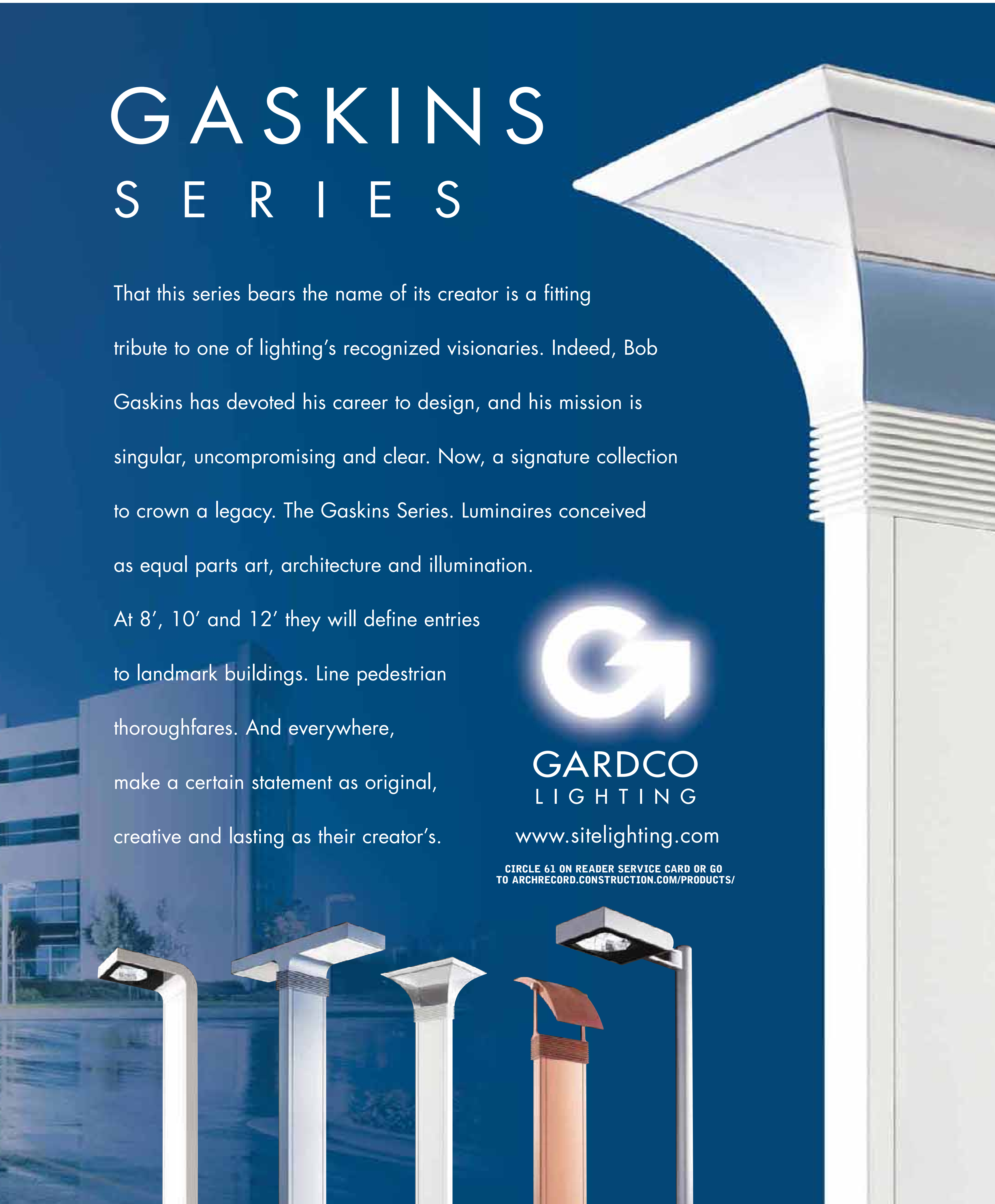


Tungsten halogens graze the steel curtain within the atrium (above). The light is reflected in the edges of the rods as viewers look overhead, creating a visual effect Carlson calls "sparkling stars" (top).

Sources

Custom fixtures: *Equinoxe*
MR16 lamps: *General Electric*
AR111 lamps: *Osram*
Lighting controls: *Lutron*

For more information on this project, go to Lighting at ***www.archrecord.com***.



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Architect and multimedia artist **Iole Alessandrini** explores the interactions between light and space

Season, Winter of Light **was a temporary installation in Tacoma (opposite, top) in which Alessandrini wrapped two blocks of crumbling brick foundations with the light from metal halide fitted with red gels. The artist participates in her recent laser installation (left).**

By Robert Such

Multimedia artist Iole Alessandrini tills the imaginative landscape where light and architecture intersect. Trained as an architect and fine artist in her native Italy and as a lighting designer at the University of Washington, the Seattle resident employs daylight, electric illumination, sound, and video in ephemeral, site-specific installations, often within industrial buildings and urban ruins. Her goal is to enhance and bring attention to neglected built environments, perhaps sparking public debate.

"Architecture represents movement, a powerful symbol that redefines space and invents new functions," she says. "Light is energy, a minimalist medium that interacts and transforms something that already exists. My work explores the relationship between the two, and how together they may alter perception."

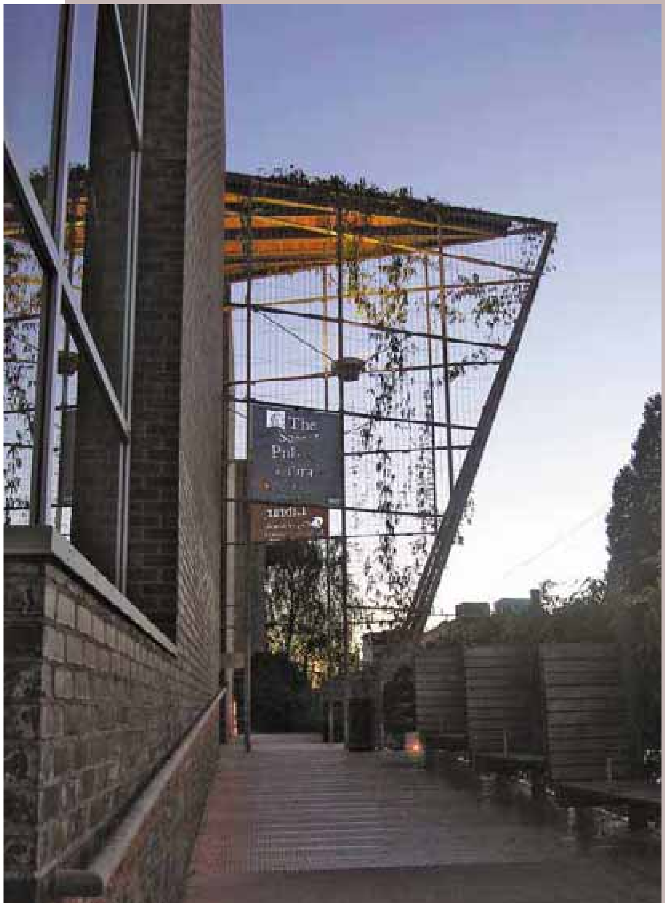
Alessandrini often combines lighting with smells and soundtracks of invented language or electronic noise to create works that the public can encounter by accident, such as the one near a Tacoma roadside where she lit crumbling wall fragments. She alternatively transforms empty and inactive sites into disorienting, eerie, or uplifting places.

The artist, whose father and grandfather were cabinetmakers, was born in Avezzano, Italy, in 1962. Her family moved to Rome when she was a young child, and she later studied fine art and architecture there. Alessandrini was encouraged by a mentor to apply to graduate architecture school at the University of Washington, which also ran a study center in Rome. When her enrollment in Seattle was delayed by university red tape in the early 1990s, she decided to move to London for a year to improve her English and to work for the architectural firm ORMS.

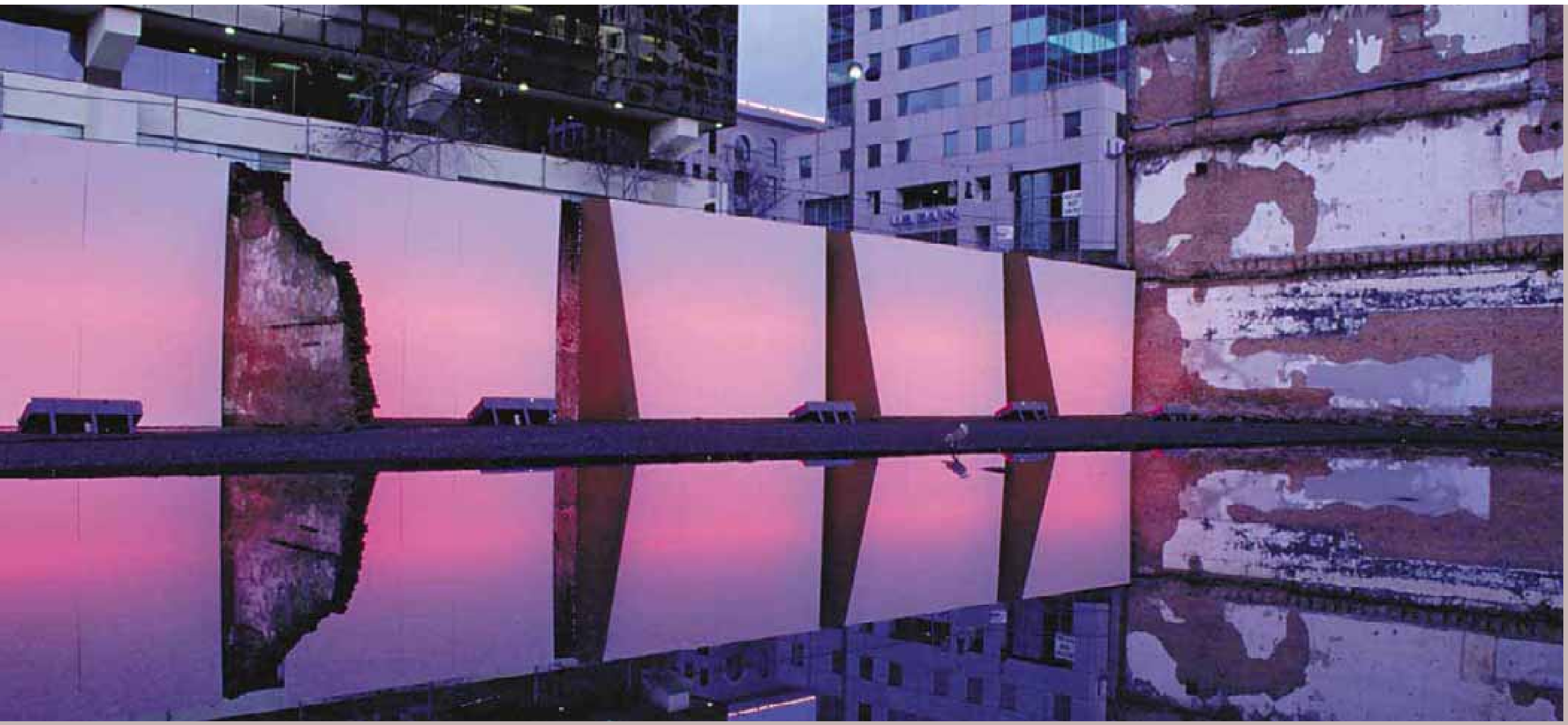
Once at the University of Washington, Alessandrini was taken under the wing of lighting design professor Marietta Millet, "whose passion and knowledge about lighting and visual perception stirred my interest," the artist says. Researching color and optics as a graduate thesis, Alessandrini began to experiment with light, exploring the psychological and perceptual effects of various types of illumination interacting in different enclosures. The more she experimented with light, the more she veered away from wanting to practice architecture.

Last year, Alessandrini exhibited a laser installation at Seattle's Center on Contemporary Art. Titled *Threshold*, it was the next stage in her research into lasers. "I like to fill spaces with smoke and over time simultaneously observe light and space," she says. Using the camera's ability to take long exposures, Alessandrini photographed people moving slowly through a sheer wall of green light, producing some strange visual effects, holographlike images built up from traces of laser light striking

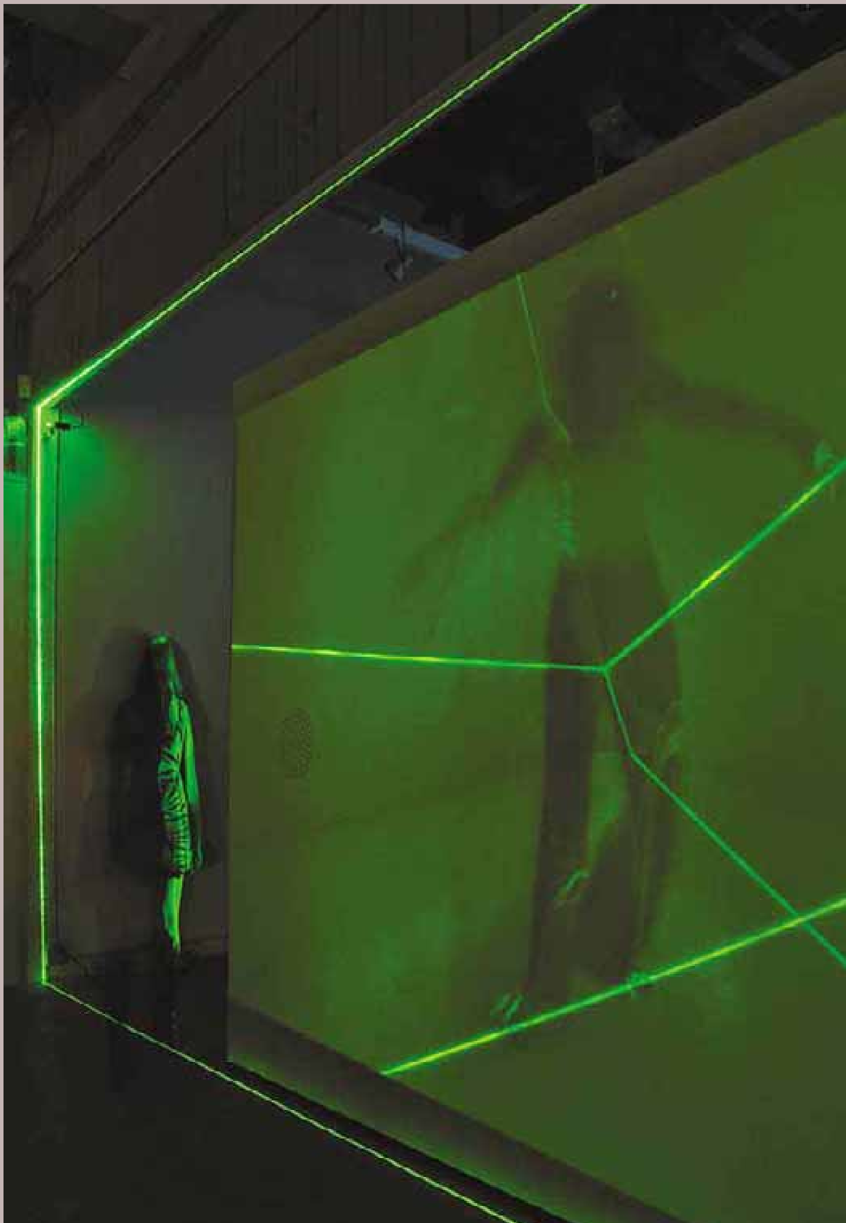
Capital Hill Library**, where the artist wrapped an entry trellis in light, was a collaboration with Johnston Architects and Cutler Anderson.**

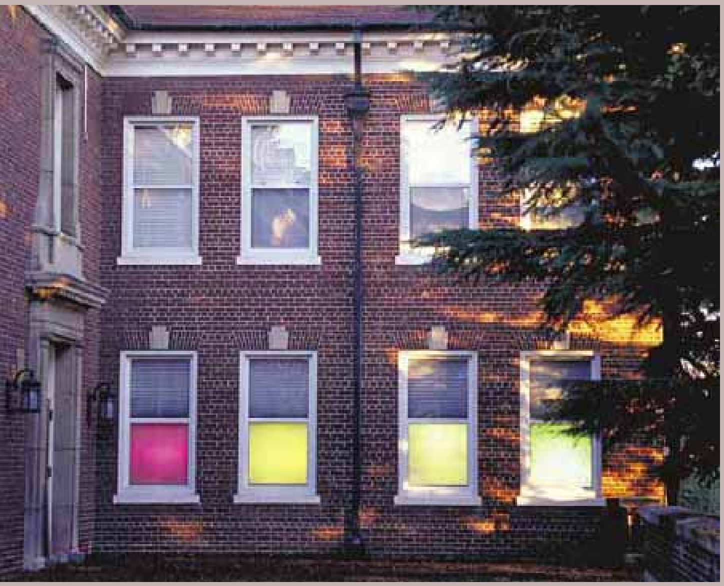


PHOTOGRAPHY: © IOLE ALESSANDRINI

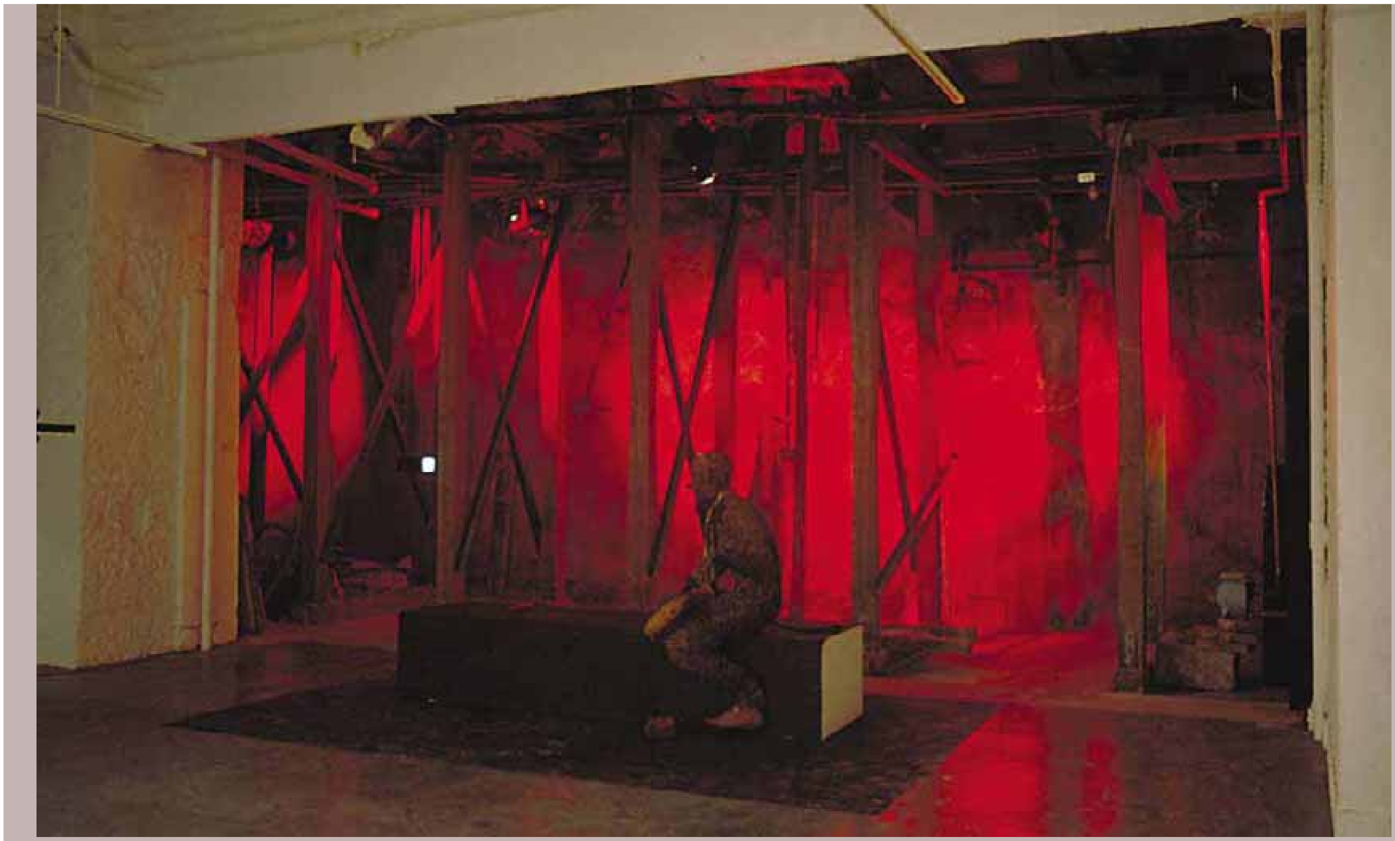


Untitled, a 2004 laser installation at Seattle's Jack Straw Production New Media Gallery, paired sound and lasers to create discrete zones.

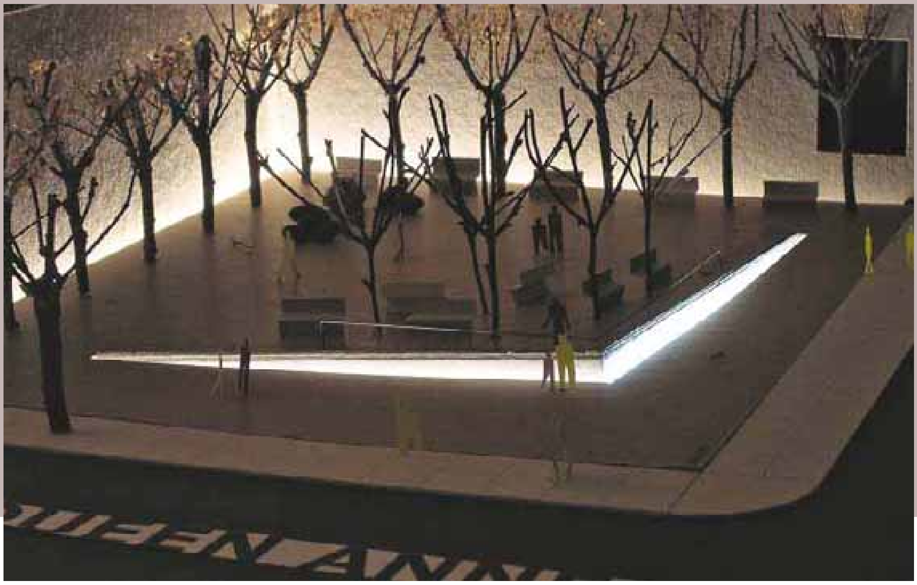




Building 9 was part of the Horse Head Sculpture Project. Here, the artist installed light, color, and scents in the windows of a building.



Erikson Sidewalk**, a glowing red walk-through installation in the 1997 exhibition *Encounters With Space*, was mounted at Seattle's John Erikson Building.**



Queen Anne Park**, a light study for a proposed installation in an urban Seattle park, shows how illumination would emanate from canted walls sloping to the ground.**

each person passing through the vertical partition.

Untitled, a blacked-out gallery space crossed by six lasers, became a sort of "satellite space," she says, seemingly disconnected from the outside world. She and other participants moved around "feeling immaterial," in an enclosed theatrical arena.

Another project, *Aqua Pura Vista*, was an audiovisual work focusing on memories, constructed inside a brick-and-metal water tower in Seattle's Volunteer Park. Attracted by the sounds of dripping water and gentle chanting, visitors climbed to the top to watch video images of floating bodies and colorful overlapping projections of arches on a cylindrical screen. Light from 26 halogen lamps and gels mimicked the patterns made by the sun falling through the tower's own arches.

Funded by grants from both the public and private sectors, and sometimes commissioned by architects, Alessandrini's artistic process begins with a site survey, exploring potential links between a structure and its surroundings. When working in a gallery space, she reflects on how her artwork will interact with a conventional arts venue. She builds scale models to test her lighting solutions. Models enable the artist to execute a design, and sometimes "are more interesting and revealing than what I had originally envisioned, sending me off exploring once more,"she says.

In terms of the practical applications for her research, Alessandrini says she believes the work of artists eventually influences mainstream thinking and can lead architects in new directions when thinking about light and space. She is currently collaborating with landscape architect Bob Murase on a public outdoor project in Seattle's Uptown Queen Anne neighborhood. The planned park will have a low-sloping central area bounded by trees. For canted, slitlike openings in the ground, Alessandrini is designing a color-changing LED installation, drawing life to another empty urban environment and filling it with sound and light. ■

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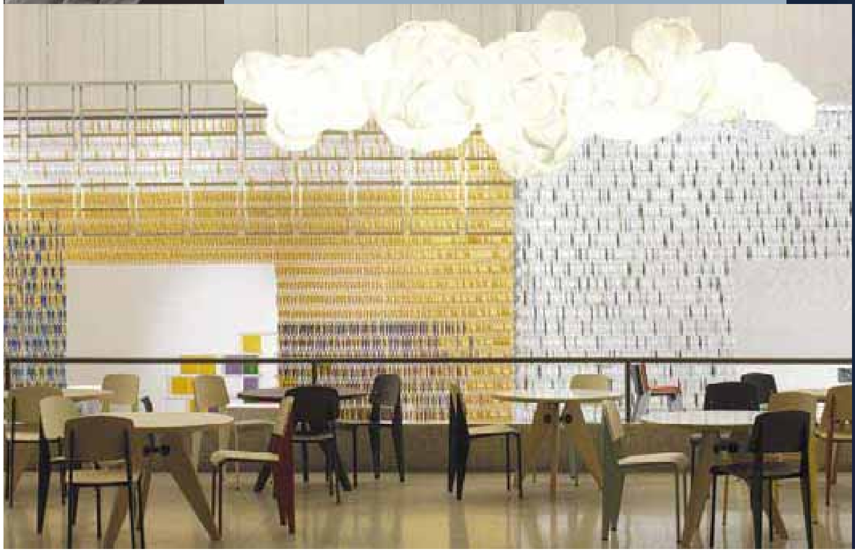
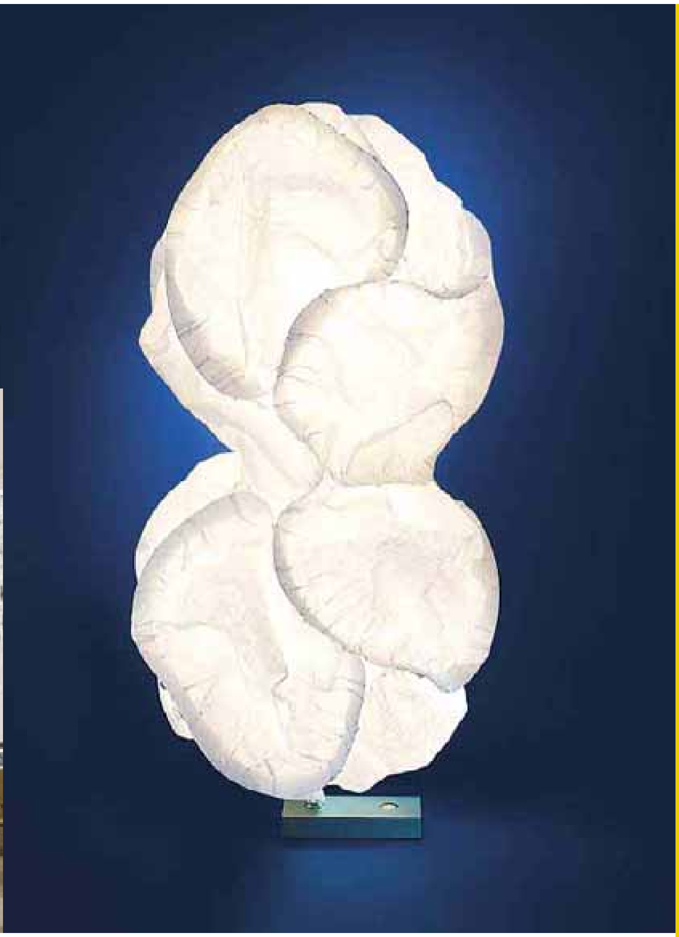
Frank Gehry says his new Cloud Lamps are an homage to the Akari lamps of Isamu Noguchi. The sculptural luminaires are constructed of sheets of translucent polyester clipped together to form irregular shapes around a 100-watt incandescent bulb. The units, in three volume sizes, can be grouped vertically (right) or horizontally (below).





Gehry on lighting the clouds

Interview By William Weathersby, Jr.

Frank Gehry is the master of creating sculptural buildings renowned for their voluptuous curves and light-refracting skins. For his latest product designs, the architect looked toward the clouds. His new series of Cloud Lamps, designed for Vitra, are dramatic lighting fixtures that seem to float. The fixtures evoke the luminous lamps of Isamu Noguchi, but with a crinkly, one-of-a-kind twist. Made from a fire-retardant, tear-resistant skin that looks like paper, each Cloud Lamp seems like a found object showcasing countless folds, crimps, bulges, and dents. Available as a hanging, standing, floor, or table lamp, the Cloud houses a single incandescent lamp affixed to a transparent polycarbonate ring. In New York recently for the launch of the new lighting line, Gehry sat down with RECORD to talk about his designs.

ARCHITECTURAL RECORD: *For your first lighting line, you have designed something versatile and ethereal. What was your inspiration?*
FRANK GEHRY: Vitra asked me to create a lighting fixture, and I wanted to experiment with shapes. I've always loved Isamu Noguchi's Akari lamps. Recently I was working to update my cardboard/paper Easy Edges furniture from the early 1970s for the company, so I thought I would do light fixtures working with craftpaper. I love that material. Some of my first lighting prototypes are on display at Vitra [in the New York showroom]. I have working versions in my house, too. One prototype was made of irregular paper cups used for packing that we stapled together. But of course paper isn't practical for mass production, and because of safety issues, so we translated the lamp's sheathing into a treated polyester material that is tear-free, flame-resistant, and ages well.

AR: *What about the construction of each fixture? There seems to be quite a range of configurations.*
FG: I wanted to create a lighting system that would be flexible. I figured out that if you stamp one shape and use a clip system, you can use one mold for manufacturing the sections that make up each shade. The idea is that everyone who buys a lamp can twist and mold and alter the shape until they get what they want. Later, you can alter the shape again to suit a new requirement. And you can group the lamp units together to create a chandelier, or build vertical or horizontal fixtures in different sizes. The consumer becomes a collaborator in the design.

AR: *The lamps are offered in three volumes based on the number of panels that can be clipped together: five, seven, or 10. Do you foresee any other future options for the Cloud?*
FG: We are experimenting with dyeing the skins in colors: There are red and yellow prototype versions now, and one with stripes. We might also design another mold to achieve different shapes.

AR: *Will you specify any Cloud fixtures in your own upcoming buildings?*
FG: I never use my own stuff in my projects. I feel it is unfair to specify for a client. When they ask for it, we talk about it, but only upon request.

AR: *You've also created new versions of the Easy Edges and Experimental Edges cardboard chairs and tables for Vitra. What's on the horizon?*
FG: I want to design a line of furniture for children, based on the notion of building blocks—simple shapes and splashes of color. ■

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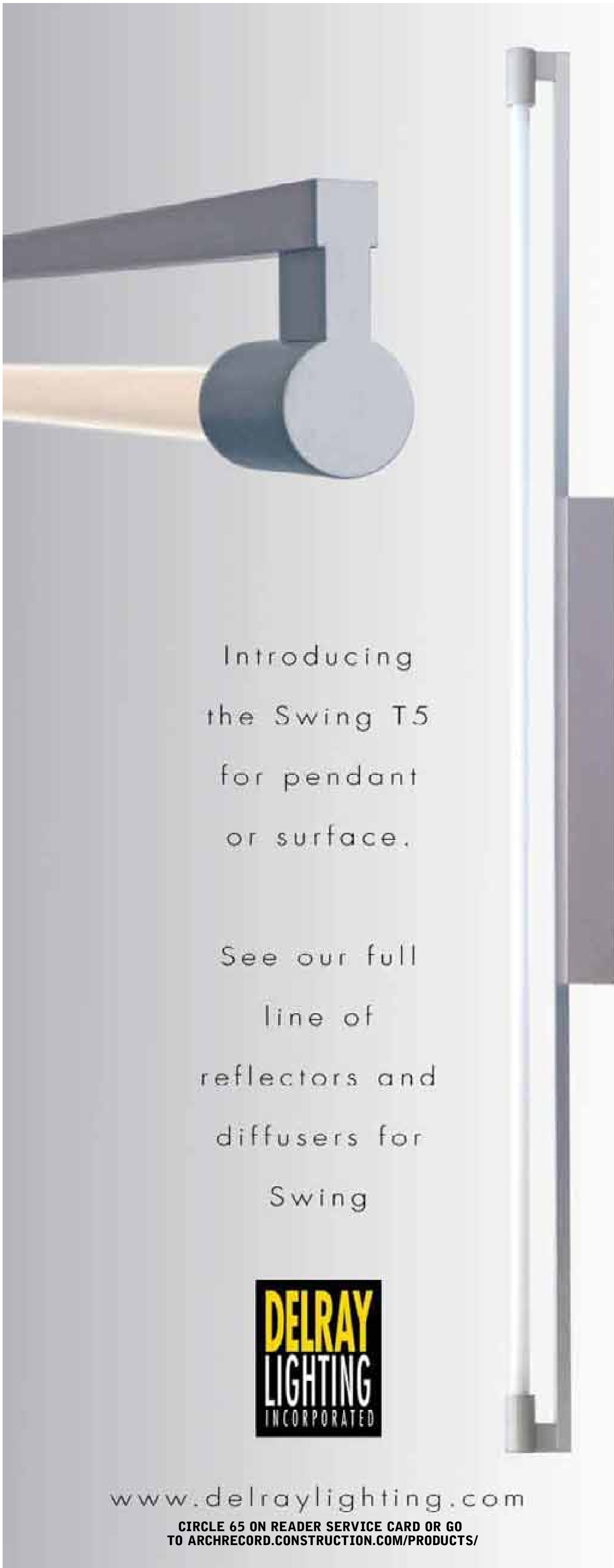
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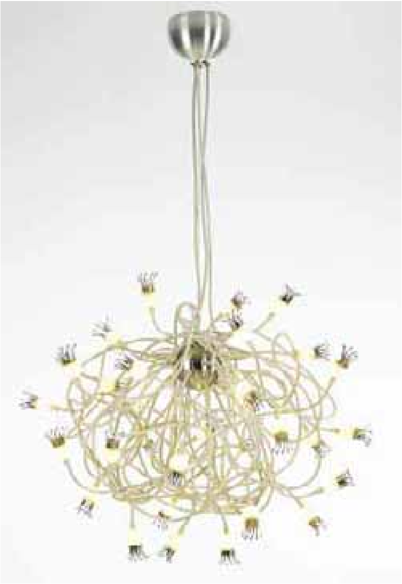
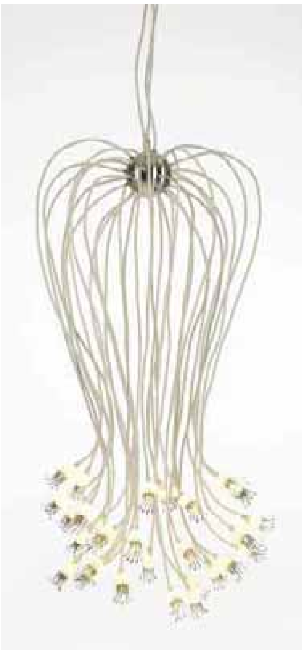
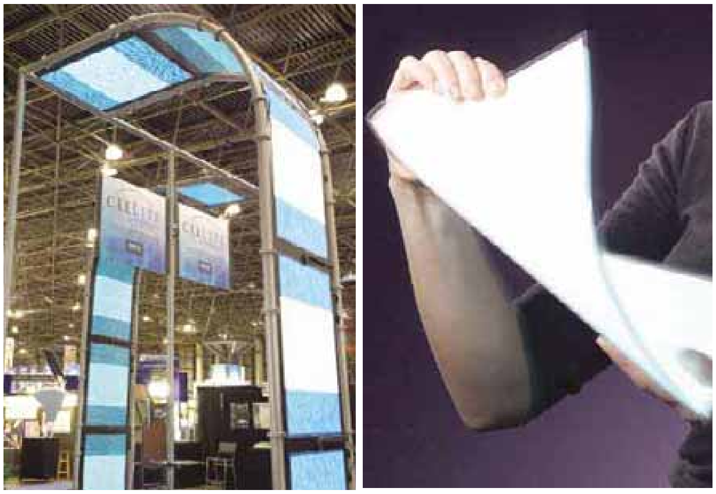
Lighting Products





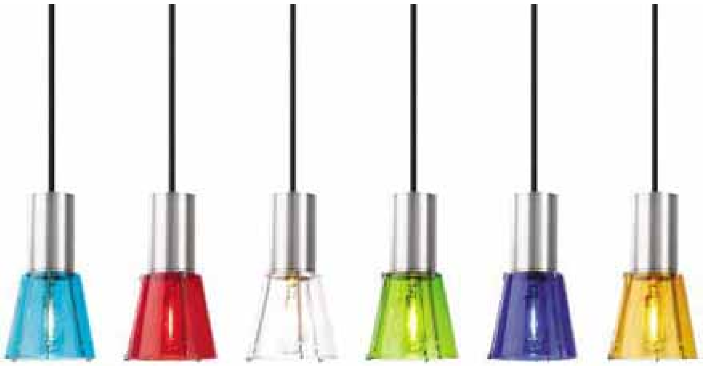
▲ Starring role

According to the folks at Serien Lighting, a room without an eye-catching luminaire "is like an unadorned décolleté on the red carpet at Cannes." Made for dramatic impact, the Poppy Lüster chandelier is intended for restaurants, foyers, or any location with at least 10-foot-high ceilings. Depending on how the 30 Medusa-like arms are arranged around the stainless-steel sphere, the luminaire's diameter varies from 4' to 5'. The mouth-blown-glass shades come in white, red, or black-violet. Serien Lighting, Fort Lauderdale, Fla. www.serien.com **CIRCLE 201**



Light-emitting-capacitor technology

Ceelite's flat lighting panels use light-emitting-capacitor (LEC) technology, making it possible to apply lighting to floors, walls, around columns and pillars, and on unconventional objects and surfaces indoors and out. The panels are composed of three components: Sylvania's high-quality light emitting phosphors for color and brightness; proprietary programmable Flatline Inverters to control levels of brightness and lifetime; and advanced "packaging materials" for lower heat generation that extends the life of the lighting. Compared to standard electroluminescent products, Ceelite claims its LEC-based lighting offers superior brightness. Ceelite, Lansdale, Pa. www.ceelite.com **CIRCLE 203**

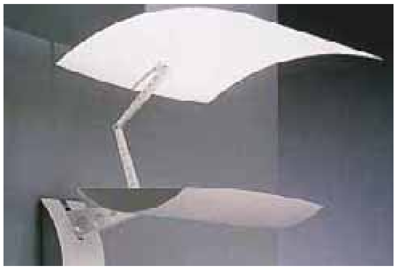


▲ More clarity than before

Resolute has introduced two new additions to the Clarity line of lamp holders designed by Douglas Varey. The Clarity Universal Wall/Ceiling lamp features a shade that rotates 350 degrees and an elbow joint that swivels 190 degrees. The Clarity Swivel Reach lamp also has an elbow joint that swivels 190 degrees and comes in lengths of 16" to 56". The line is also available in three new colors: Aqua (far left), Red/Orange (second from left), and Chartreuse Green (third from right), shown in the pendant style above. Resolute, Seattle. www.resoluteusa.com **CIRCLE 200**

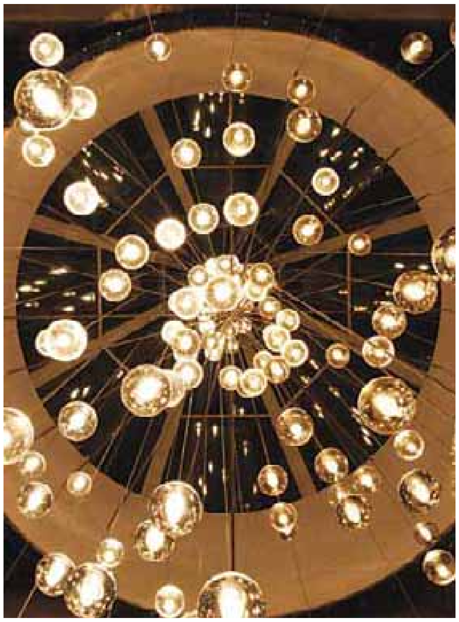
▼ Pearl of a light fixture

The Oyster family of luminaires features shallow, semi-elliptical light housings and corresponding curvilinear, winglike top reflectors. Their angle to each other can be increased or decreased to mimic the opening or closing of an oyster shell. Indirect light is aimed upward and reflects off of the top reflector to walls and into spaces below at pedestrian level. The fixtures are constructed of lightweight steel and extruded aluminum components in white or metallic-gray finishes. Luxo, Elmsford, N.Y. www.luxous.com **CIRCLE 202**



▼ Get ready to play ball

Omer Arbel has recently been named creative director for Bocci, a Vancouver-based manufacturer. Known for his award-winning furnishings, Arbel's 14 series cast-glass pendants for Bocci will be the designer's first piece of work to enter large-scale production. The 14 series is a family of low-voltage lighting fixtures made of articulated seamed-cast-glass spheres with frosted cylindrical voids, which house halogen light fixtures. Designed to be clustered in groups, the light interacts with the bubbles and imperfections in the glass to make a rich halo of light around the piece. The series has already been short-listed for several awards, including the IF Product Design Award in Hannover. Bocci plans to add more items by Arbel and other designers to the collection in the future. Bocci, Vancouver. www.bocci.ca **CIRCLE 204**



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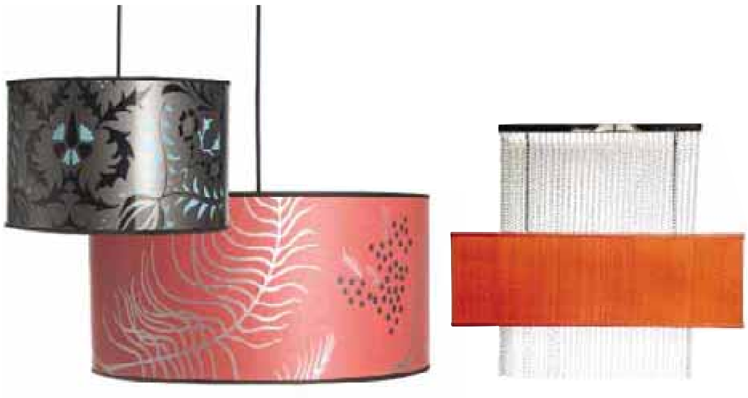
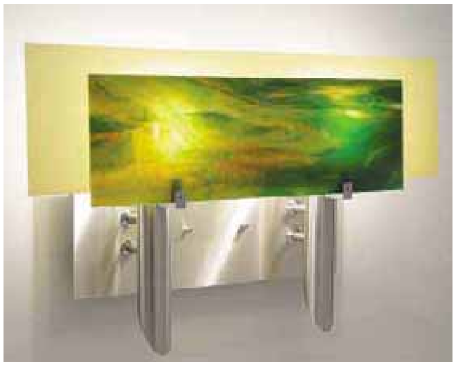
Lighting Products



▲ Glam lamps

Founded in 1999, Zia-Priven Design features a collection of glamorous pendants, sconces, table and floor lamps, finials, and accessories. Inspired by the current popularity for hand-printed wallpapers, the Wallpaper Collection includes a series of handmade-wallpaper hanging pendants in three sizes. The Dauphine large drum pendant (top left) and Red Mimosa large drum pendant (center) measures 18" x 18" x 9". The Waterfall Pendant (right) comes with a rectangular or oval shade and 75 crystal swags. Zia-Priven Design, Brooklyn, N.Y. www.ziapriven.com **CIRCLE 205**

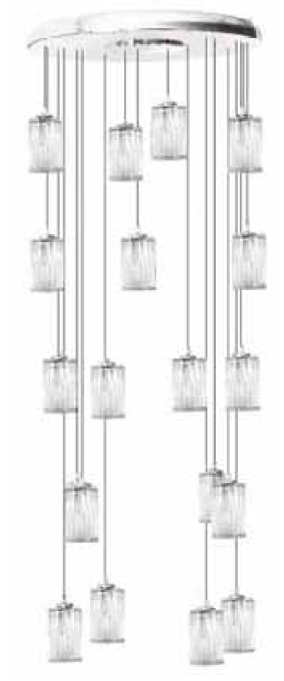
► Art glass sconces



WPT Design offers a range of sconce fixtures with brilliant art-glass shades. The ADA-compliant Dessy series features heavy-gauge stainless steel and curved or flat handcrafted glass in a single, double, or triple candelabra design. Shown here is a stainless-steel double candelabra with Meadow front glass and Flat Almond back glass shades. The UL-listed fixture measures 19" x 11" and uses two 60-watt incandescent bulbs. WTP also offers 3D “glass on glass” in animal motifs, ideal for spaces designed for children. WPT Design, Libertyville, Ill. www.wptdesign.com **CIRCLE 207**

▲ Know when it’s out, not when it’s fading

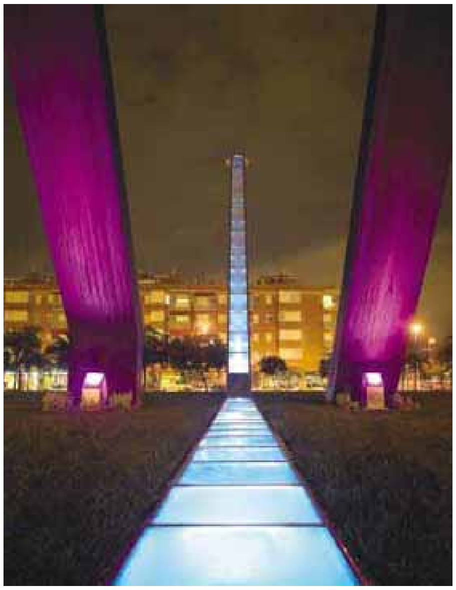
Philips has introduced a high-pressure sodium, noncycling Ceramalux lamp. The newest addition to the Ceramalux line eliminates the unwanted “cycling” that often causes outdoor lamps to consistently turn off and on at the end of life, making it easier to determine which lamps should be replaced. The new lamp passes the EPA’s TCLP test for nonhazardous waste, and contains up to 90 percent less mercury than a standard Philips Ceramalux lamp. Philips Lighting, Somerset, N.J. www.philips.com **CIRCLE 209**



◄ Crystal clear luxury

The Curios collection, from legendary French glassmaking company Lalique, draws its inspiration from the Vizcaya Museum & Gardens in Miami, which were recently damaged as a result of Hurricane Wilma. Crafted in gold and silver plating, the accessories and lighting in the collection are interpreted in the luxe medium of Lalique crystal. The Jaffa grouping includes a vase in crystal with a silver metallic finish, a desk lamp in clear crystal and polished and brushed metal, a ceiling light in clear crystal, a votive holder in clear crystal and brushed metal, and a chandelier (shown) with 5, 10, or 20 lights or a “stemmed” chandelier with 20 lights, both in clear crystal and polished and brushed metal. Lalique, New York City. www.lalique.com **CIRCLE 206**

► Illuminating sculpture



This outdoor sculpture in Cornellá, Spain, is illuminated by Martin Architectural’s Exterior 600, Exterior 200, and Exterior 200 Long Barrel wash lights, whose colored beams contrast with the sculpture’s stainless steel, steel cuts, and glass plates. The work, an enormous inclined frame divided by an illuminated vertical element, is located in a public park. The illumination schemes are controlled by a Martin PC-based LightJockey. Martin Architectural, Woodland Park, Colo. www.martin-architectural.com **CIRCLE 208**

◄ Brightest offering yet

An ultra-bright interior/exterior LED floodlight and the world’s brightest underwater LED pool light are two of the latest products powered by Lamina Ceramics. Each LED is capable of generating any of 16 million colors, including varying shades of white. The two offerings are designed around Lamina’s chip-on-board packaging technology, which enables multiple LEDs to be clustered closely together, resulting in a high light output in a very small footprint. Lamina Ceramics, Westampton, N.J. www.laminaceramics.com **CIRCLE 210**

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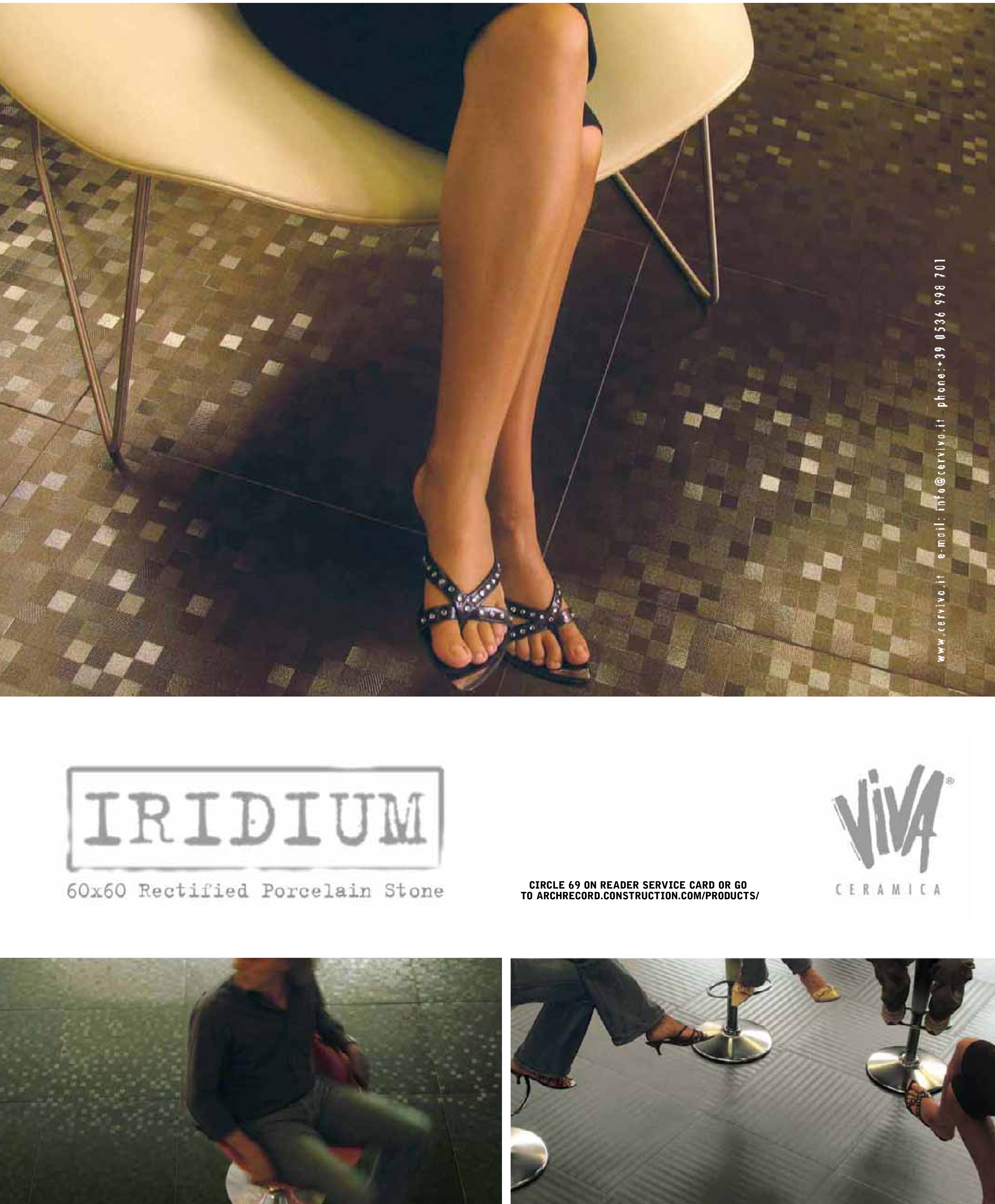

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Products

Flooring: Wood, Resilient & Concrete

This month's **flooring roundup** includes new offerings in vinyl, wood, bamboo, and concrete. For the latest trends in the flooring industry, check out the **Surfaces show**, held from 1/31–2/3 in Las Vegas, or the **Coverings tile and stone expo**, to be held from 4/4–4/7 in Orlando. *Rita Catinella Orrell*

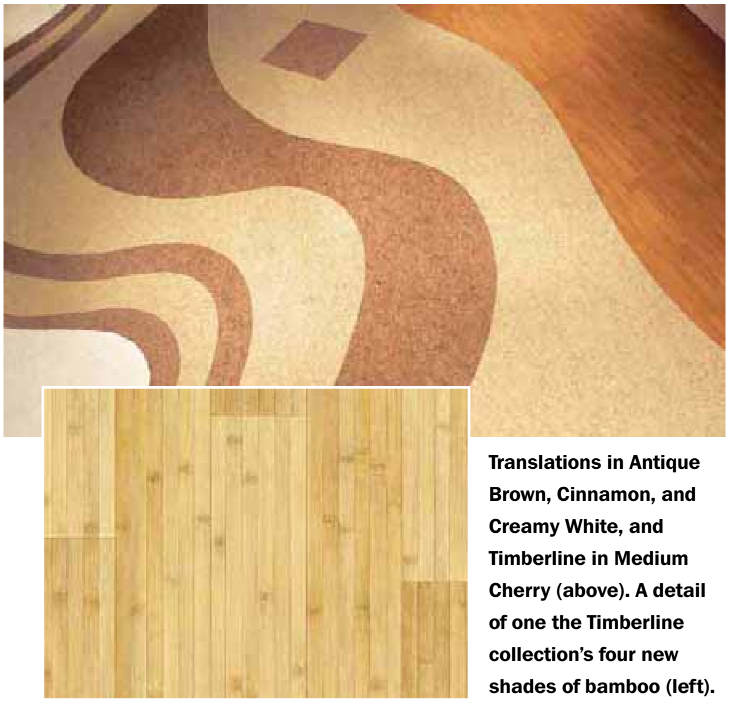
Commercial resilient flooring lines updated

Armstrong Commercial Floors has updated several resilient flooring collections, including the Timberline, Standard Excelon, Translations, and Commission Plus product lines.

Exotic wood visuals have been added to the Timberline group, comprising four shades of bamboo and three variations of wenge, along with five other options, including rustic beech, walnut, and cherry. The color palette for the Standard Excelon VCT collection has been increased by 16 more colors. Both products meet all current ASTM guidelines and feature a new urethane coating for increased durability. The floors are also FloorScore certified, meaning they meet stringent indoor air quality requirements.

The Translations line features a classic marble visual in a range of colors and three seaming methods. Ideal for retail, education, healthcare, and other applications, the heterogeneous sheet flooring has expanded to a palette of 24 calm neutrals and bright accents.

Finally, the refreshed Commission Plus collection is ideal for spaces that need a residential look combined with light-commercial performance, such as assisted living. Armstrong has nearly doubled the product line, which now includes 30 SKUs, including a wide variety of decoratives, stones, slates, and woods. Armstrong Commercial Floors, Lancaster, Pa. www.armstrong.com **CIRCLE 211**



Translations in Antique Brown, Cinnamon, and Creamy White, and Timberline in Medium Cherry (above). A detail of one the Timberline collection's four new shades of bamboo (left).

Floors that replicate metal, concrete, leather

Innovision Flooring's Artwalk vinyl sheet flooring features metal effects that replicate the look of stainless steel and metallic paint, realistic textured leathers, and concrete visuals for a range of commercial interiors including retail, education, government, and hospitality installations. Available in 79" x 49' size, with gauges of .126" (metal collection) and .087" (leather and concrete collections), the collection's 12 contemporary metal visuals and 16 concrete and leather color combinations offer specifiers a broad selection. In addition to Artwalk, Innovision offers five other flooring collections: Naturelife heterogeneous sheet flooring, Deco Stone/Wood vinyl tile flooring, Neovia vinyl tile flooring, and Static Pulse ESD (electrostatic discharge) flooring. Innovision Flooring, Kenilworth, N.J. www.lgflooring.com **CIRCLE 212**

The collection includes concrete (left) and metal (right) visuals.

Strand bamboo floor offers 30-year warranty

The strand bamboo flooring from S&W International Group, a manufacturer and installer of bamboo flooring, offers a floor that is twice as hard as red oak and 80 percent harder than hard maple. A quick-growing grass, bamboo takes just five to six years to grow, rather than at least 25 years needed to grow a tree.

S&W offers three types of bamboo flooring: traditional, strand woven, and click-on glueless. Traditional and glueless bamboo flooring each feature a 20-year warranty, while strand-woven bamboo offers a 30-year warranty. Bamboo is available in two colors: natural, which is similar to maple, and coffee, which is a darker color created with a high-temperature, high-pressure treatment.

Bamboo's durability makes it a good floor surface for high-traffic areas such as stairs. S&W claims to be the only company that offers decorative items such as medallions, inlays, borders, baseboards, stair treads, and flush floor vents in bamboo. Two colors of bamboo flooring, along with medallions, inlays, and borders, were used on the stairs shown below. S&W International Group, Elk Grove, Ill. www.sw-intl.com **CIRCLE 213**

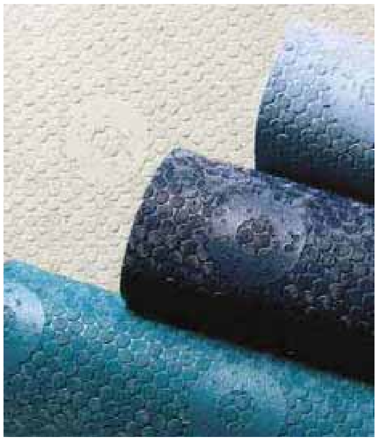
Flooring: Wood, Resilient & Concrete

▲ Terrazzolike solid vinyl tile

Milano and Milano SR solid vinyl tile from Azrock offers an upscale look while providing a slip-resistant option that is easier to maintain while using less water and chemicals. Ideal for heavy-use areas such as school foyers, hotel lobbies, and retail chain stores, the flooring costs less than luxury vinyl tile and terrazzo products and requires only dry buffing, making it easy to maintain. Available in a wide range of colors, as well as slip-resistant options, Milano replicates the look of terrazzo with multidimensional chips that give it depth. Tarkett Commercial, Houston. www.tarkett.com **CIRCLE 214**

► Three ways to safety

Available in three finishes, Altro's new Imprint safety flooring collection is ideal for high-traffic public areas such as receptions, corridors, and cafés. Inspired by the texture of snakeskin, Altro Imprint Cobra features a shimmering textured pattern. Altro Imprint Tectonic incorporates the pure form of a circle overlaying the larger pattern, while Imprint Pico features small, randomly spaced shapes. Altro, Mississauga, Ontario. www.altrofloors.com **CIRCLE 217**

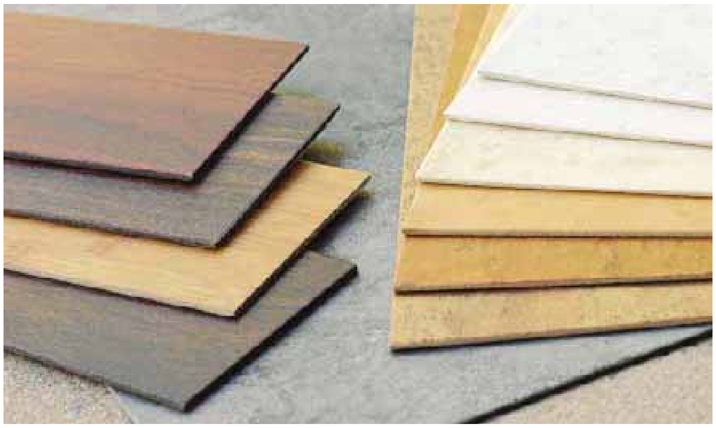


▼ Monolithic concrete tile options

Maxx Architectural Concrete is integrally colored monolithic tile ideal for commercial environments. Sixteen vibrant colors are available in a range of thicknesses, sizes, and shapes, including square, rectangular, and "trapezium"-shaped tile (shown on wall), which offers new compositional choices for wall and floor applications. Tiles come in smooth or textured finishes. Architectural Systems, New York City. www.archsystems.com **CIRCLE 218**

► Sound-deadening laminate floor

Sonic Floor is a new sound-deadening laminate flooring from Kronopol. Beneath the top surface, Sonic Floor is equipped with an integral underpad made of felt and rubber. Independently field-tested on concrete using ASTM methods for sound-reduction rating, the floor was found to significantly diminish impact noise. The laminate is made with wood from FSC-certified forests, and emits a very low amount of VOC and formaldehyde emissions. Kronopol Laminate Flooring, Ontario. www.kronopol.com **CIRCLE 215**



▲ Luxe vinyl tile collection

Mannington Commercial's new Luxury Vinyl Tile collection, Nature's Paths, is a collection of wood and other natural surface visuals. A tough urethane topcoat ensures superior stain-resistance as well as lower maintenance. A proprietary process, NatureForm Optix, combines the latest advances in imaging, texturing, and finishing to create authentic wood- and stone-textured resilient products. Mannington Commercial, Calhoun, Ga. www.mannington.com **CIRCLE 216**

◄ Widest color range

Preverco has introduced four new stains for its yellow birch hardwood floors—Cognac, Bourbon, Toffee, and Java—in addition to its eight original colors. According to the manufacturer, this is the widest variety of colors for yellow birch in the North American hardwood flooring industry. A versatile species of wood that presents an alternative to red birch and red oak hardwood, Preverco's yellow birch has a similar hardness level to red oak. Preverco Hardwood Flooring, Quebec. www.preverco.com **CIRCLE 219**

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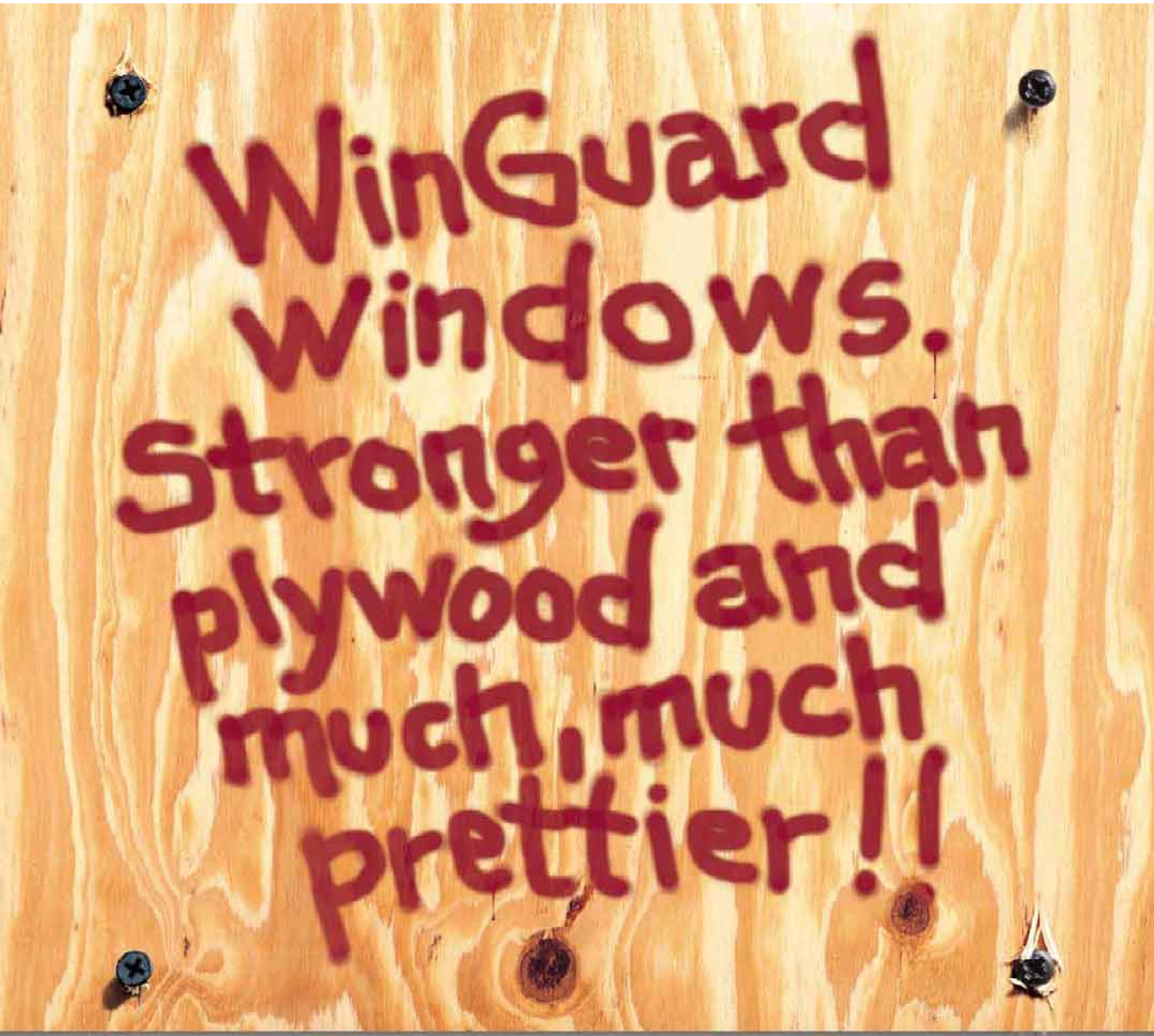

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Product Briefs

▼ Leggy table collection

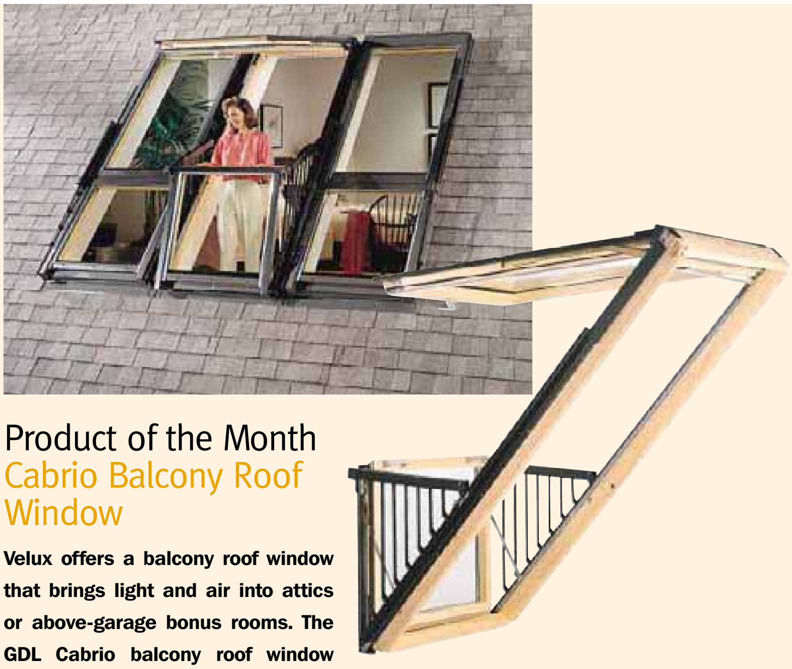
Fantoni's Leg collection combines chromed- or satin-finished frames with tops in wood, colored glass, or melamine. The design features a tubular steel frame with a central beam available in polished chrome or a satin-finished nickel color. The unusual leg shapes run into rounded feet that offer stability. The ½"-thick glass tops come in six colors; the melamine-finished tops imitate the appearance of honey maple, ice maple, or wenge; and the veneer-finished tops come in birch, red cherry, or sepia cherry for a warmer look. Luminaire Contract, Miami. www.luminaire.com **CIRCLE 220**

► Handy desk accessory

DokuMount helps engineers, architects, and industrial designers liberate their workspace from oversize blueprints and drawings. Designed in conjunction with an ergonomist, DokuMount's floating radial arm suspends large documents above the desk and incorporates a mechanism that grasps and releases up to 15 sheets of paper without clips. The rotatable and transparent holder comes in 18" x 24" or 22" x 34" sizes and six mounting options. Innovative Office Products, Easton, Pa. www.lcdarms.com **CIRCLE 222**

▼ Wings of security

Smarter Security Systems introduces the new Fastlane GlassWing speedgate that combines speed, accuracy, and tailgater detection with glass barriers that recess into the pedestals for authorized personnel. Every Fastlane unit has a microprocessor that is programmed with advanced neural network algorithms that allows the system to catch intruders trying to sneak into a building while ignoring most nonhuman objects, such as briefcases, umbrellas, or other items that trigger alarms in competing systems. Smarter Security Systems, Austin, Tex. www.smartersecurity.com **CIRCLE 223**



Product of the Month
Cabrio Balcony Roof Window

Velux offers a balcony roof window that brings light and air into attics or above-garage bonus rooms. The GDL Cabrio balcony roof window features an exclusive dual-sash operation: The top sash opens for maximum ventilation and also pivots completely inward for easy glass cleaning from inside the room, while the bottom sash opens outward, creating a roof balcony. When the balcony roof window is closed, a ventilation flap allows fresh air circulation for heat-collecting upper areas of the home, and floor-to-ceiling low-E laminated glass brings daylight into the space. Designed for installation in roof pitches from 35 to 53 degrees, the balcony window can been installed for less than the cost of traditional dormers. Optional insect screens and sunscreen accessories are available, including manual light-block shades, venetian blinds, pleated shades, and roller shades. Velux America, Greenwood, S.C. www.veluxusa.com CIRCLE 221

▼ Get pulled in this direction

Idaho-based Rocky Mountain Hardware manufactures high-quality, solid bronze architectural hardware for doors, cabinets, baths, and kitchens in upscale resorts, restaurants, hotels, corporate offices, and residences. Each Rocky Mountain hardware piece can be custom made to replicate a special architectural detail of a project, a favorite icon, or a company logo. Inspired by the organic texture and strength of rope, the solid bronze Lariat Pull features numerous hand-applied patinas (bronze patina shown) that mature over time to a rich hue. Lariat Pulls are available in 7", 10", and 16" lengths, in Silicon or White Bronze, and with seven patina options. Rocky Mountain Hardware, Hailey, Idaho. www.rockymountainhardware.com **CIRCLE 224**

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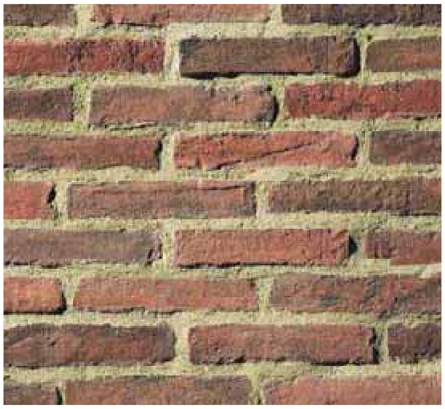

◄ Breaking the mold of brick veneer

Introduced at last month's International Builder's Show in Orlando, Eldorado Stone's new line of brick veneer product is handcrafted using precise molds of authentic European bricks specifically selected for their shape, texture, and color, then finished by hand and tinted by highly trained artisans. Four profiles and 14 colors are currently available, including RomaBrick, a longer profile that is irregular in shape and can vary from 9" to 10" long. The brick shown here is in Bracciano, a warm color blend of subtle reds and burnt blacks, creating an Old World look and feel. A range of accents and accessories has also been added. Eldorado Stone, San Marcos, Calif. www.eldoradostone.com **CIRCLE 225**

► Glass door system

Shown here in a Manhattan auto dealership, the Manet Compact system by Dorma Glas can be used on ⅜" and ½" sliding and pivoting tempered glass doors. It features stainless-steel fixtures and components to render a clean, Modern aesthetic for corporate offices, meeting facilities, and other applications. Components that attach directly to the glass surface feature strong, flush-fitting, single-point fixings that deliver an uncluttered appearance and safely transfer all forces acting on the glass to the load-bearing structure. The door system features an unconventionally designed visible center pivot that extends the entire length of the door. For sliding doors, the system offers sliding door rollers that hang from sliding track tubes, guide rails, clamp fixings for the track tube, door handles, and locks. Dorma Group N.A., Reamstown, Pa. www.dorma.com/usa **CIRCLE 226**

▲ Racier raceway system

Wiremold/Legrand has introduced the next generation of perimeter metal raceway for wire and cable management. Designer Series 4000 steel raceway features a streamlined curved surface and a wider selection of colors. The raceway has also been designed to minimize the visual impact of plugged-in wires and cables through an optional downward-facing configuration for receptacles and data jacks. Ideal for educational buildings and offices, the new raceway is available in standard designer colors, including ivory, gray, black, and bronze. Wiremold/Legrand, West Hartford, Conn. www.wiremold.com **CIRCLE 227**

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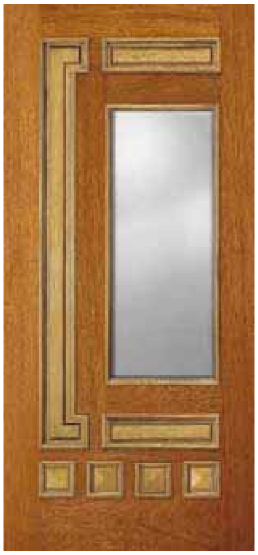
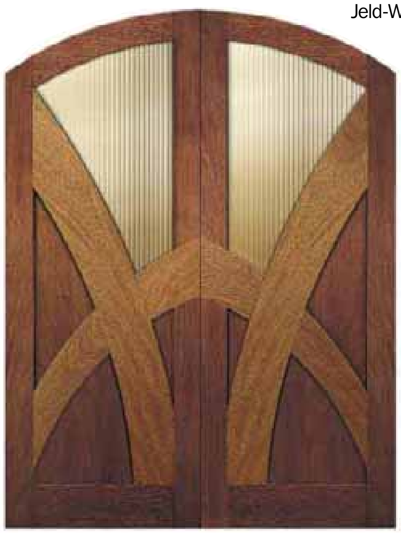


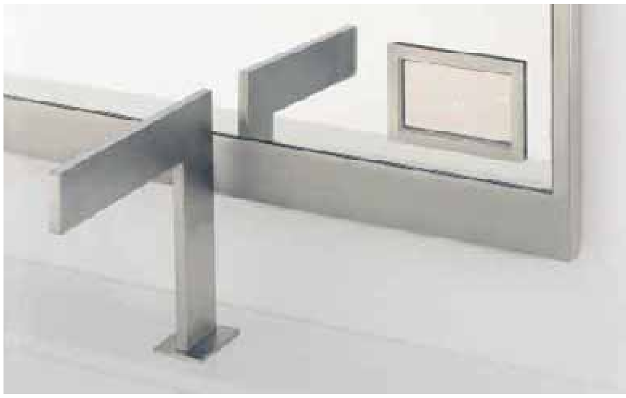
◄▼ Opening the door for young designers

Brandi Berryman and Amanda Hardaway, two architecture students from the University of Kentucky at Lexington, each won a $2,000 scholarship and a trip to last month's International Builder's Show as part of Jeld-Wen's first Student Door Design Contest.



Jeld-Wen invited students from around the nation to submit their designs last fall, and along with a jury of design professionals (including a representative from RECORD), selected three scholarship winners. Berryman designed her door with the idea of luck in mind and the visual of crossed fingers (near left), while Hardaway's love of architecture inspired her Art Deco motif design (far left). Jonathan Tucker, an architecture student at the University of Colorado at Boulder, received a first place scholarship of $2,000 for his double-door design. Jeld-Wen, Klamath Falls, Ore. www.jeld-wen.com **CIRCLE 228**

► A step toward the other side of the looking glass



Rubinetterie Ritmonio's latest collection, Bianconiglio ("White Rabbit"), was inspired by the idea of looking through the other side of the looking glass. Designed by Davide Vercelli, the system not only features a new tap design, but a new system of managing water in the home. Bianconiglio places a box inside the wall to regulate the temperature, which is controlled by a thermostat sensor found on a tactile interface. On the plane, a grid of optical sensors determines 40 points with different delivery and temperature conditions, individualized by luminous dots. The control surface can be placed independently near the fitting or integrated into the surface of a mirror, and is turned on by a touch of the finger. The manufacturer hopes the system will help users monitor their water use, and in turn, take steps toward conservation. Lacava, Chicago. www.lacava.com **CIRCLE 229**

▼ Building a strong foundation

Last September, concrete producer Prairie Material Sales, along with chemical admixture supplier Degussa Admixtures, collaboratively designed a Rheodynamic Self-Consolidating Concrete (SCC) mix that would be used for the concrete foundation of the Trump International Hotel and Tower superstructure in Chicago, making it the largest single SCC pour in North America to date—more than 30 ready-mix trucks from Prairie Material Sales made 600 trips to the Trump Tower site. SCC has a strength of 10,000 psi produced on a continual basis. Expected to be completed in 2009, the building will be 92 stories high and consist of more than 2.6 million gross square feet of building area and more than 180,000 yards of concrete. Degussa Admixtures, Cleveland. www.degussa.com **CIRCLE 230**

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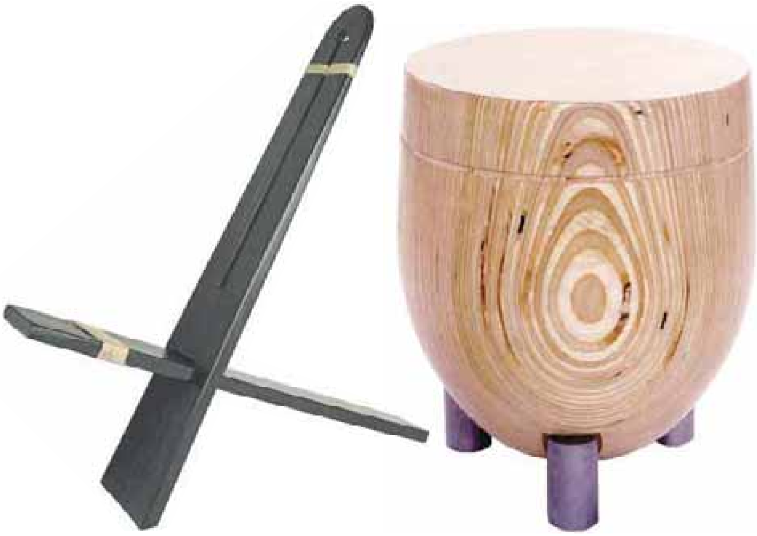
Product Briefs

▼ Colorful laminations

Bold use of color dominated the entries for the 2005 Solutia International Design Awards, which honor excellence in designing with laminated glass. The architecture winners include the Woermann Tower (left), a mixed-use retail and residential center in Gran Canaria, Spain, that features hues of yellow Vanceva interlayers used throughout the facade to provide safety, security, and wind-resistance, and La Casa de Mamá (right), a children's center in Guadalajara, Spain, surrounded by brilliant blue, green, red, pink, yellow, and orange Vanceva color interlayers. Solutia, St. Louis. www.solutia.com **CIRCLE 231**



▲ Contemporary African furnishings

Launched at the 2004 Architectural Home Design Show in New York City, Berchuma is a signature furniture line created by Jomo Design. Founded by Jomu Tariku and Henock Kebede, the collection's name is an Ethiopian word for stool or small chair, and in fact, the line includes a series of stools and small chairs inspired by African furniture design and art. Intended to fill the gap in a marketplace full of Continental European, Classic American, Asian, and Scandinavian designs, the traditional feel of the product line bears a contemporary touch through different methods of craftsmanship. Current designs include the Birth chair (left) made of Ebonized Cherry, and the Duka stool (right), made of Baltic Birch and aluminum, both designed by Adiskidan Ambaye. Berchuma, Alexandria, Va. www.berchuma.com **CIRCLE 232**

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American Institute of Architecture Students

The design studio lies at the core of architectural education. The experiences, habits and patterns found within the studio make up what we have termed, "studio culture." Design studio teaches critical thinking and creates an environment where students are taught to question all things in order to create better designs.

The experience of a design studio has also driven away good people or genuinely and unnecessarily insulted many in the formal process of learning. The AIAS believes we can improve the way students are educated which will lead to better designers.

The efforts of the AIAS to have the entire profession of architecture think critically about the studio model of education, has recently made remarkable progress. In coordination with our partners (AIA, ACSA, NAAB and NCARB), accredited schools are now expected to demonstrate a positive and respectful learning environment through the encouragement of the fundamental values of optimism, respect, sharing, engagement and innovation between and among the members of its faculty, student body, administration and staff. Nine other initiatives are also being implemented that will create additional positive changes.

Educators and professionals are encouraged to partner with schools on this issue to ensure they graduate well-rounded, prepared and talented emerging professionals. Visit www.aias.org/studioculture to learn more.

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► Shady fabrics

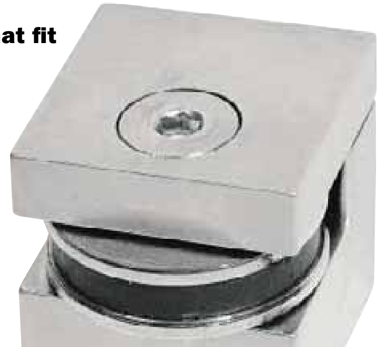
Shades and Screens is a new collection of decorative textiles created for the shade and privacy-screen market. Available in 78", 106", or 118" widths, the fabrics can be railroaded and hung vertically or horizontally. The collection includes seven patterns that are knitted, not woven, for dimensional stability, which ensures the edges will remain stable even when suspended. Designtex, New York City. www.dtex.com **CIRCLE 233**

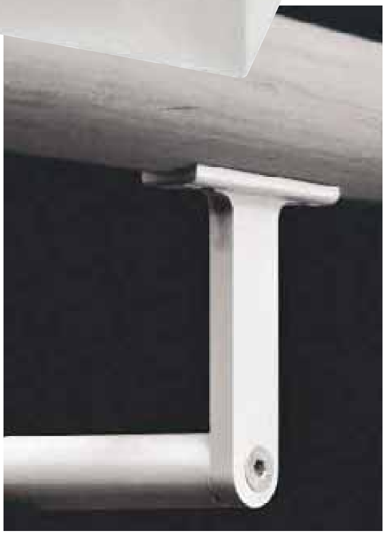
◄ Thermal insulation board

The extruded polystyrene foam composition found in Energy Star–rated GreenGuard SL Insulation Board from Pactiv provides a high R-value (5.0 per inch of thickness), resulting in increased thermal protection in foundation and basement applications. Available in thicknesses ranging from 1" to 2", each 2' x 8' or 4' x 8' section of board is tough enough to withstand the rigors of the job site, yet is lightweight and easy to cut and install. Pactiv, Lake Forest, Ill. www.pactiv.com/green-guard **CIRCLE 234**

► Hardware fittings that fit

Designed and made in New Zealand by hardware specialists Halliday+Baillie, Ironmonger offers several new fittings, including a locking flush bolt, a stair rail fitting, flush pulls, and magnetic stops. While the square (top) or round magnetic door stops prevent a door from slamming into the wall with a sturdy two-point floor installation, they also keep it held open with a strike plate fixed to the door. The stops are available in a satin pearl finish on aluminum. The handrail bracket (bottom) features a simple bracket and post to which a wood rail is fixed that can be installed at any angle to match the staircase. It is made in a satin pearl chrome finish with stainless-steel fasteners and is suitable for interior or exterior applications. The Ironmonger, Chicago. www.ironmonger.net **CIRCLE 235**





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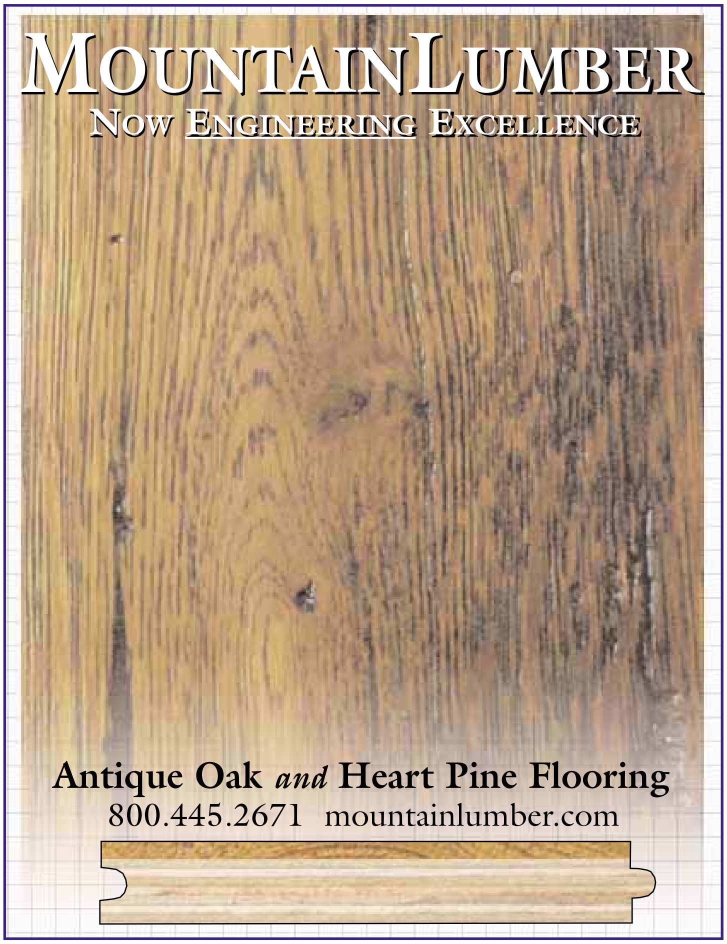

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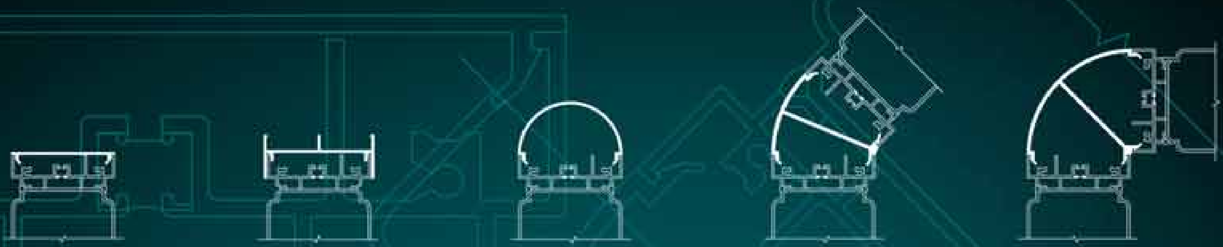

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45-degree corner caps were used to connect Hy-Lite panels to form this neo-angle shower. Flat caps were used to finish off the top and sides of the doorway, while a flat cap and mounting channel were used to attach the panels to the curb and wall.

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Round caps finished off the ends of this radius wall perfectly. Aluminum mulls were used to connect the three radius walls together, while a flat cap mounted the units to the top of the curved wall.

90-degree corner caps were used to connect four acrylic block panels together to form decorative, lit towers. The panels were mounted to the base and top piece with flat caps.

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Aluminum mulls were used to connect these flat panels and radius walls together. A flat cap and mounting channel were used to mount the units to the base and the walls. Flat caps were also used to connect the desktop to the top of the panels.

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Product Resource: Literature

Inlay/parquet flooring

Oshkosh Designs has introduced a new design manual that provides detailed information about the company's full line of wood and stone inlay products and parquet flooring. The manual includes full-color images, technical specifications and product illustrations, and a product reference guide. Oshkosh Designs, Winneconne, Wis. www.oshkoshfloors.com

CIRCLE 236

Seating catalog

BioFit Engineered Products' new 36-page catalog, *Engineered Seating for Productivity*, features hundreds of seating products, including chairs, stools, and footrests for offices, labs, schools, and other applications. Information includes standard features of each model plus options such as special backrests, seats, armrests, and ergonomic controls. BioFit Engineered Products, Waterville, Ohio. www.biofit.com **CIRCLE 237**

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Free window and door resource guides

Jeld-Wen offers three new resource guides that highlight a variety of appropriate Jeld-Wen product options for different themes: The *Coastal Selections Guide* focuses on hurricane-area requirements and energy-efficient products that will withstand harsh coastal climate conditions; the *Historic Restoration Guide* presents windows and doors that complement classic architectural styles, such as Craftsman, Old World, Victorian, and Colonial; and the *Remodeling Guide* presents affordable, reliable features such as energy-efficient low-E glass and AuraLast wood. Jeld-Wen Windows & Doors, Klamath Falls, Ore. www.jeld-wen.com **CIRCLE 238**

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www.novica.com

Part of the National Geographic family, Novica.com is an online "world marketplace" that unites customers with more than 2,000 master artisans from around the world. Founded six years ago, the site allows visitors to select from thousands of handmade gifts, jewelry, and home decor pieces, including furniture, lighting, and area rugs. Each item comes with a biography of the artisan who made it.

www.poggenpohl-usa.com

poggen pohl

Luxury kitchen manufacturer Poggenpohl has redesigned its Web site under a new domain to reflect the brand's upscale image. The multipage site includes a showroom locator, specific product information, a section on luxury condominium projects featuring Poggenpohl kitchens, a secure online ordering system for catalogs, information on sample displays for sale, and the latest corporate news from the German manufacturer.

www.lpcorp.com

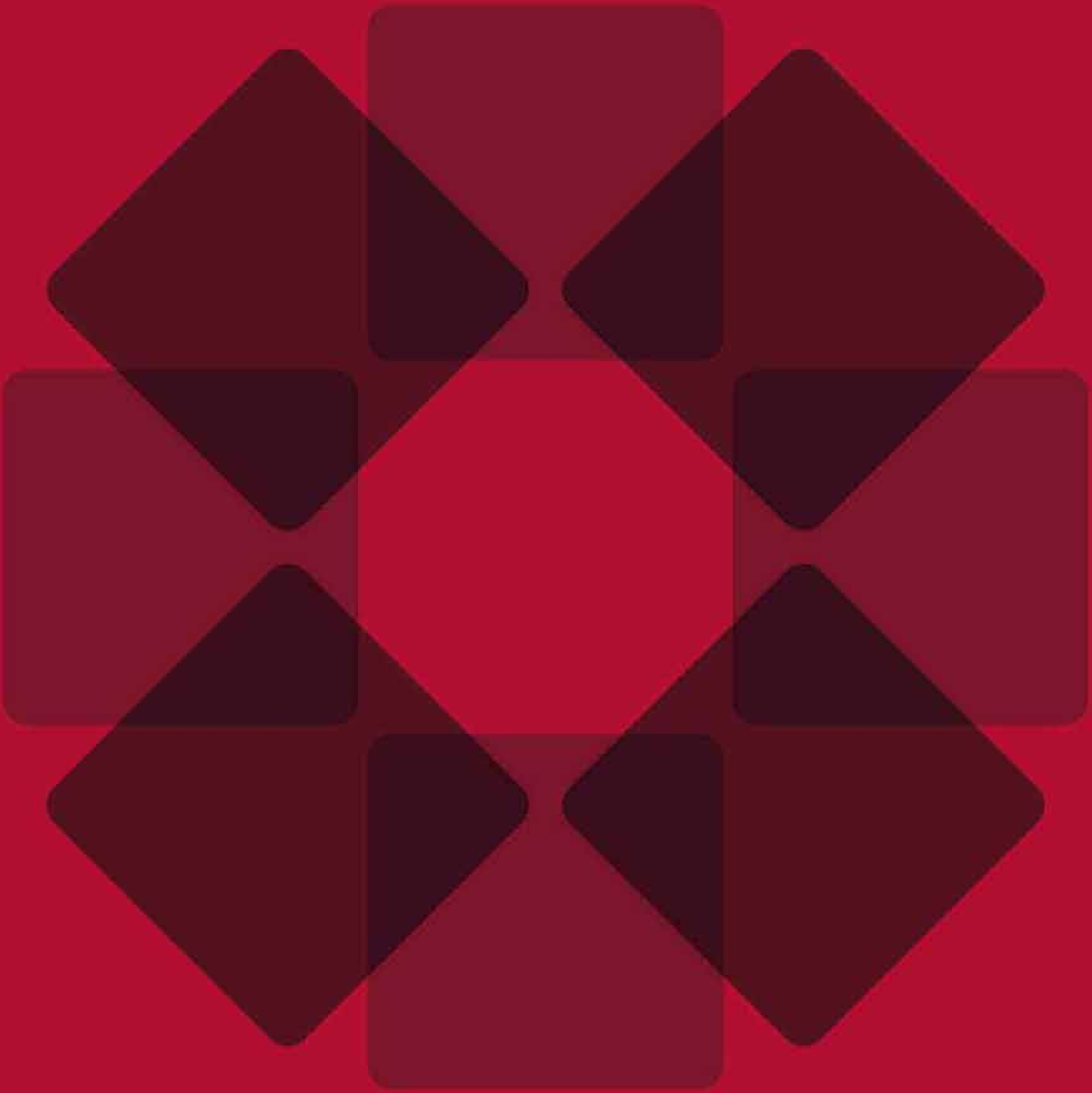
LP
Welcome to the Neighborhood

Louisiana-Pacific has launched a redesigned Web site that showcases its full array of building products under the LP brand. Customized Web pages address the specific needs of a variety of site visitors, including building-products distributors, builders, architects, and homeowners. A new interactive online application allows visitors to design a backyard LP WeatherBest deck using the "Sketch-a-Deck" tool, or to visualize a home in a range of LP siding colors.

www.grahambrown.com

GRAHAM & BROWN

A selection of Graham & Brown's wall coverings, borders, digital murals, hand-painted canvases, and decorative accessories are now available directly from the British manufacturer's Web site. Visitors can shop by designer or wallpaper type, order samples online, and find out about special offers.



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Good Design is Good Business.

The editors of *BusinessWeek* and *Architectural Record* invite you to enter

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Good design is good for business.That's why this distinguished award recognizes and rewards exceptionally designed work that makes a significant contribution to the business aspirations of a given company or institution – backed by measurable business results. 2006 Award recipients will be featured in the November 2006 issues of *BusinessWeek* and *Architectural Record* magazines, read by over 5 million business and design professionals.

For more information and an entry form, go to

http://archrecord.construction.com/features/bwarAwards/

Entries must be postmarked no later than May 15, 2006.

BusinessWeek

ARCHITECTURAL RECORD

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Dates & Events

New & Upcoming Exhibitions

Dream Machines: The Inventions of R.G. Martelet

Chicago

February 3–March 25, 2006

In the 1960s, Ron Martelet was one of the greatest product designers at Sears, Roebuck and Company, where his futuristic designs were created with the potential of being realized. His designs for snowmobiles, jet skis, golf carts, and power boats will be featured in a special exhibition and sale. At ArchiTech Gallery of Architectural Art. Call 312/475-1290 or visit www.architechgallery.com.

Barns of Western Pennsylvania

Pittsburgh

February 4–May 28, 2006

Despite rampant suburban sprawl in Western Pennsylvania, 29 of the 33 counties in this half of the state are classified as rural, and agriculture remains a leading industry. Barns are thus an important component of this region's landscape, as well as extremely evocative icons in the popular mind. This exhibition traces the development of barns in the region from the late 18th century to the present through an exploration of their forms, functions, technological evolution, and role as barometers of change in the agrarian economy. At the Heinz Architectural Center. Call 412/622.3131 or visit www.cmoa.org.

Bruno Mathsson: Designer and Architect

Stockholm

February 9–August 27, 2006

Bruno Mathsson (1907–88) developed Modernism in furniture design and architecture, addressing both general and special problems in the design of furniture, interiors, and buildings. This exhibition focuses on his well-known furniture designs as well as his lesser-known architectural endeavors, which include a large number of single-family dwellings, terrace houses, schools, factories, and exhibition galleries. At the Swedish Museum of Architecture. Call 46 0 8 587-270-00 or visit www.arkitekturmuseet.se.

On-Site: New Architecture in Spain

New York City

February 12–May 1, 2006

Featuring 53 noteworthy architectural projects, this exhibition focuses on the most recent architectural developments in a country that has become known in recent years as an important center of international design experimentation and excellence. At the Museum of Modern Art. Call 212/708-9431 or visit www.moma.org.

Architectural Art

Atlanta

February 13–March 30, 2006

Presented by the Foundation for Community Arts, exhibitors include Kenneth von Roenn, Walter Gordinier, Seranda Vespermann, Susan McCracken, Arthur Stern, Christian Culver, Chrisitina Lihan, Katherine Linn, AIA Georgia's Best of 2005. Also on view is a niche exhibition of the art of landscape design. At Mercer University Brown Art Gallery. Call 678/547-6280.

Prairie Skyscraper

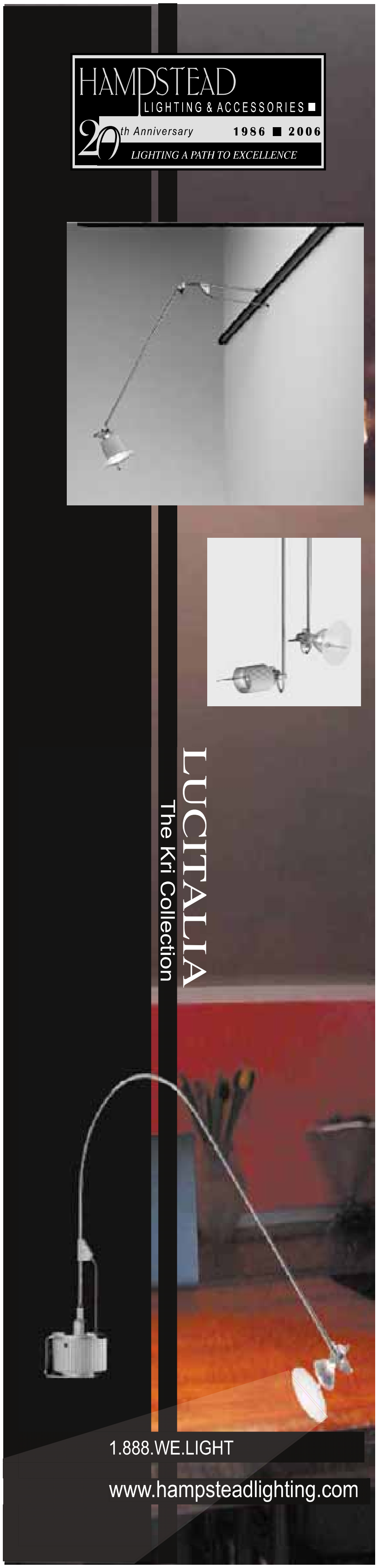
New Haven

February 13–May 5, 2006

A traveling exhibition showcasing Frank Lloyd Wright's only skyscraper, Price Tower. Now celebrating its 50th year, the 19-story building in Bartlesville, Oklahoma, was an exemplar of one of Wright's ideals: a single structure incorporating residential, commercial, and public spaces. Today, the building serves as a museum of modern art, design, and architecture, housing a hotel and restaurant as well as gallery spaces. The installation for this exhibition was designed by celebrated architect Zaha Hadid. At the Yale School of Architecture. Call 203/432-2288 or visit www.architecture.yale.edu

Frank Gehry: Art + Architecture

Ontario, Canada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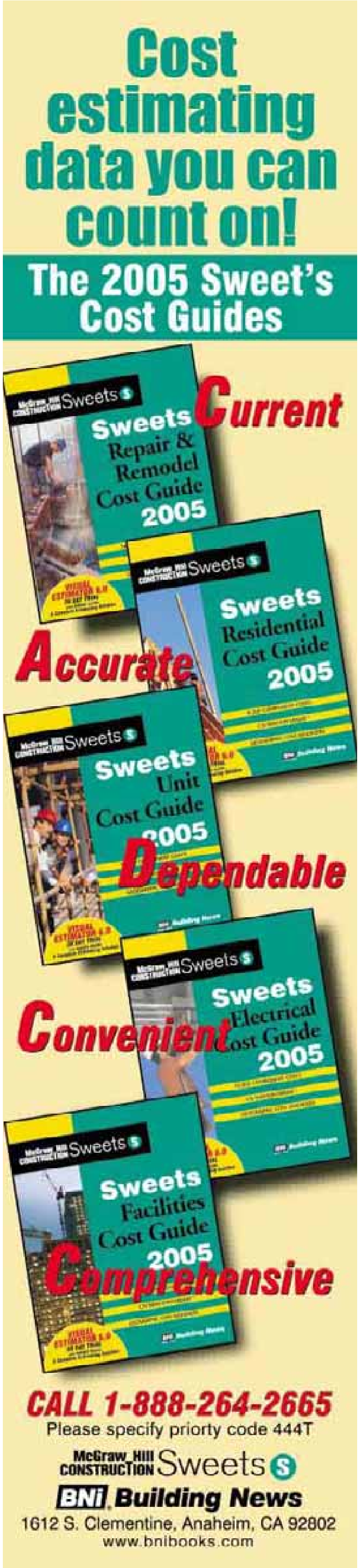

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Dates & Events

February 18–May 7, 2006
Best known for building curvaceous structures often covered with titanium, Canadian-born Gehry has completed the design phase of the Art Gallery of Ontario (AGO) expansion, his first project in Canada. The exhibition features drawings, models, and site photographs of four of Gehry's projects from the past decade. Along with working models generated through the design of the AGO's expansion project, the show will explore the impact of Gehry's buildings on the surrounding communities. At the Art Gallery of Ontario. Call 416/979-6656 or visit www.ago.net.

Golconde: The Introduction of Modernism in India
Chicago
February 21–April 6, 2006
Sited on the coastal edge of the Bay of Bengal, Golconde, a dormitory for the Sri Aurobindo Ashram in Pondicherry, India, was designed by architects George Nakashima and Antonin Raymond. Completed in 1942, Golconde was the first reinforced, cast-in-place concrete building in India and clearly celebrates the Modernist credo: architecture as the manifest union of aesthetics, technology, and social reform. The exhibition assembles construction drawings, architects' letters and journals, and extensive photographs of this extraordinary building. At the Graham Foundation. Call 312/787 4071 or visit www.grahamfoundation.org.

Extreme Porosity
Los Angeles
February 27–March 24, 2006
This exhibition features photographs, drawings, and models designed and fabricated at UCLA by architecture and urban design students who participated in a traveling seminar led by faculty member David Erdman. The studio went to Istanbul, examining mosques that reflect 15th- and 16th-century innovations in the use of minimal surfaces where extreme lightness, porosity, and geometry are evidenced. At UCLA Department of Architecture and Urban Design Perloff Gallery. Call 310/825-2585 or visit www.aud.ucla.edu.

Ongoing Exhibitions

Santiago Calatrava: Sculpture into Architecture
New York City
Through March 5, 2006
Many forms of Calatrava's celebrated buildings originated in his independent works of art. This exhibition showcases his sculptures in marble and bronze, as well as drawings, and architectural models, including work related to the new transportation hub he has designed for the World Trade Center site. This is the first exhibition in the U.S. to feature such a large selection of Calatrava's independent work and to examine it in conjunction with his architecture. At the Metropolitan Museum of Art. Call 212/535-7710 or visit www.metmuseum.org.

The Fashion of Architecture: Constructing the Architecture of Fashion
New York City
Through March 11, 2006
In this exhibition, visitors are encouraged to investigate the contemporary relationship between fashion and architecture. Studies in the congruencies between these two dynamic disciplines will provide a framework for understanding current trends in visual culture. *The Fashion of Architecture* coincides with Fashion Week and showcases projects by Yeohlee Teng, Hussein Chalayan, Shigeru Ban, and Zaha Hadid. At the Center for Architecture. Call 212-683-0023 or visit www.aiany.org for more information.

The HOME House Project: The Future of Affordable Housing
Atlanta
Through March 28, 2006
A multiyear traveling initiative created by the Southeastern Center for Contemporary Art (SECCA) in Winston-Salem, North Carolina. The first component of the project was a national design competition and exhibition that showcased innovative solutions for sustainable low-to-moderate-income family housing proposed by more than 440 contest entrants

from around the world. At the Museum of Design Atlanta. Call 404/688-2467 or visit www.museumofdesign.org for more information.

Chicago Architecture Foundation Tours
Chicago
Through March 2006
Led by trained volunteer docents, these acclaimed tours explore the architecture of the Chicagoland area via bus, boat, train, by walking, or Segway. For descriptions of all tours, visit www.architecture.org/tours.

Symmetry
Los Angeles
Through May 7, 2006
In the world of space and time, symmetry derives its meaning from a center, a repetition of forms on mirroring sides of an axis. This exhibition features works by Los Angeles–based contemporary artists that use or relate to this concept. At the MAK Center for Art & Architecture L.A., at the Schindler House. Call 323/651-1510 or visit www.makcenter.org.

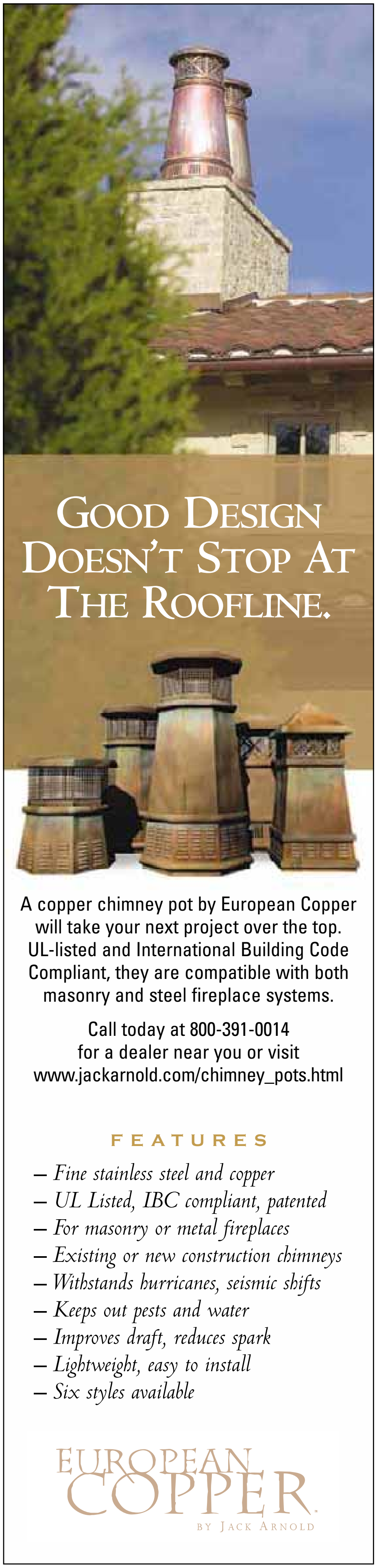
Lectures, Conferences, and Symposia

Yale School of Architecture Spring Lecture Series
New Haven
February 6–20, 2006
On February 6, U.K. architect Tony Fretton will give the Paul Rudolph Lecture, “Buildings and their Territories.” On February 9, The Brendan Gill Lecture will be given by Wendy Steiner. Her talk is titled “What Is Aesthetic Conservatism?” On February 13, Amanda Burden, head of the New York City Planning Commission, will give the annual Eero Saarinen Lecture, entitled “Shaping the City: A Strategic Blueprint for New York’s Future.” On February 20, Norway-based architect Craig Dykers will talk about the unique work ethic and vision of his firm, Snøhetta. At Yale School of Architecture Art and Architecture Building. Call 203/432-2288, or visit www.architecture.yale.edu

Lecture: Greening the Built Environment in Response to Climate Change
Washington, D.C.
February 9, 2006
The National Building Museum and the Koshland Science Museum (KSM) present a discussion by Tim Beatley, Teresa Heinz Professor of Sustainable Communities, University of Virginia (UVA), and Bruce Hayden, professor and chair, department of environmental sciences at UVA, about green design concepts for homes and communities. They will examine the relationship of architecture and climate change, and specific design features that can diminish the potential impact of climate on the urban environment. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Symposium: On-Site: New Architecture in Spain
New York City
February 10–11, 2006
The Museum of Modern Art and Columbia University’s Graduate School of Architecture, Planning and Preservation (GSAPP), cosponsor a two-day symposium to accompany the exhibition. Speakers include Terence Riley, the Philip Johnson chief curator of architecture and design, MoMA; Mark Wigley, dean of studies, GSAPP; ARCHITECTURAL RECORD contributing editor David Cohn, and architects represented in the exhibition. At Columbia University. For more information about the symposium, visit www.moma.org/thinkmodern. For information about reservations, visit www.arch.columbia.edu

D.C. Builds: Extending Modernism in the Monumental City
Washington, D.C.
February 13, 2006
Usually demonized as a failed 1960s urban renewal effort, Washington’s Southwest neighborhood has an unappreciated fabric of Modernist residential architecture. Last fall, the Anacostia Waterfront Corporation (AWC) sponsored a design studio at the Harvard Graduate School of Design to investigate the extension and redefinition of this architectural legacy in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rebuilding the Southwest Waterfront. Inspired by this studio work, a panel of leading architects will discuss the role of Modernism in a city largely characterized by monumental Classicism and historic patterns of urbanism. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Lecture: Engineering Large-Scale Structures
Washington, D.C.

February 14, 2006

For three decades, Thornton-Tomasetti Group has devised creative engineering solutions for some of the world's iconic structures, from skyscrapers and stadiums to museums and airports. Charles H. Thornton, Thornton-Tomasetti founding principal, former cochairman, and now consultant, and Richard L. Tomasetti, Hon. AIA, chairman and founding principal, will explore the technical demands involved in creating large, complex buildings, including Petronas Towers, in Malaysia; Taipei 101 (currently the world's tallest building), in Taiwan; Soldier Field, in Chicago; and the Modern Art Museum of Fort Worth. At the National Building. Call 202/272-2448 or visit www.nbm.org.

Philip Johnson: Portraits
New York City

February 16, 2006

Terence Riley, the Philip Johnson chief curator of architecture and design, MoMA, and Jeffrey Kipnis, professor of architecture, Knowlton School of Architecture, Ohio State University will give individual presentations in honor of the architect and curator, followed by a screening of Merrill Brockway's 1965 film *This Is Philip Johnson* and a discussion. At the Museum of Modern Art. Call 212/708-9400 or visit www.moma.org

Philip Johnson and the Constancy of Change
New Haven

February 17–18, 2006

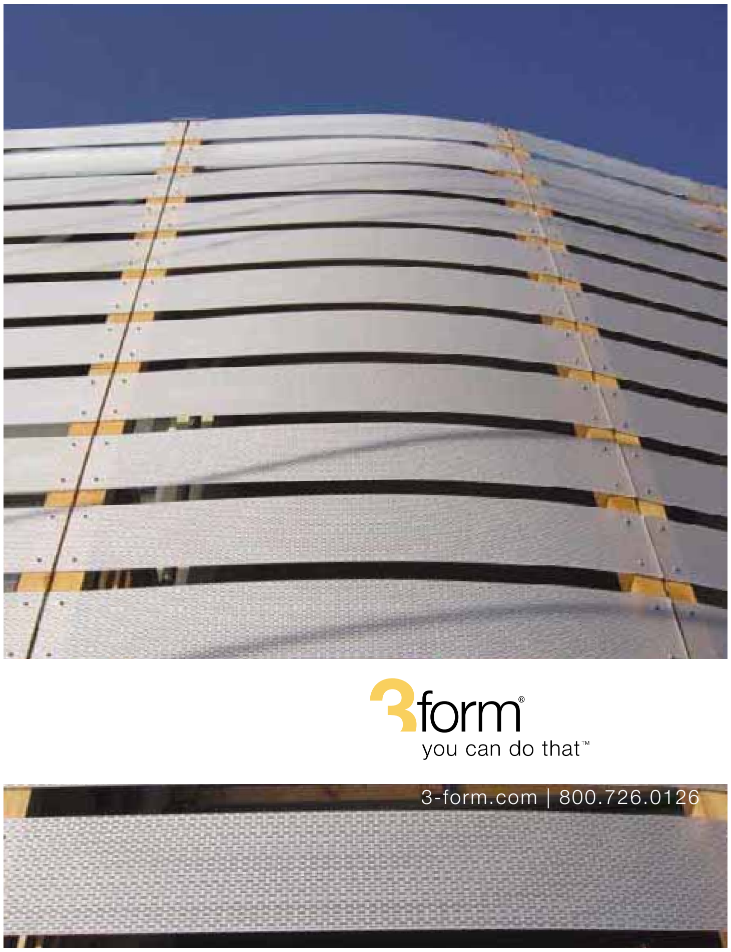
The Museum of Modern Art and the School of Architecture at Yale University cosponsor a symposium on the architect Philip Johnson (1906–2005). Architects and scholars analyze Johnson's work as an architect, teacher, and curator. At Yale University. This symposium is free, but reservations must be made by February 6. Call 203/432-2889.

Fundamentals of Commercial and Industrial Lighting
Cleveland

February 22–24, 2006
April 19–21, 2006
June 28–30, 2006

Designed for newcomers to the lighting industry, this conference provides basic product and application training for commercial and industrial lighting. This program contains lectures and full-scale lighting demonstrations that create an interesting, fast-paced, comprehensive lighting conference. Topics include: lighting terminology; lighting measurements and color; an overview of major light-source families and systems; and application modules for retail, office, industrial, and outdoor lighting. At the Lighting Institute. For more information, call 800/255-1200 or visit www.gelighting.com.

The Making of Modern New York: Puerto Rican Architects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TO RECEIVE INFORMATION PLEASE ANSWER ALL QUESTIONS

1. What is your job function? (check one)
- ☐ (1) Architect
- ☐ (2) Engineer
- ☐ (3) Designer
- ☐ (4) Specification Writer
- ☐ (5) Interior Designer
- ☐ (6) Contractor or Builder
- ☐ (7) Lighting Designer
- ☐ (8) Other ____________

2. In what type of organization do you work?
- ☐ (9) Architectural or A/E Firm
- ☐ (10) Commercial, Industrial or Institutional
- ☐ (11) Contractor or Builder
- ☐ (12) Government Agency
- ☐ (13) Interior Design
- ☐ (14) Lighting Design
- ☐ (15) Other ____________

3. Building Types you are currently working on?
- ☐ (16) Commercial
- ☐ (17) Educational
- ☐ (18) Healthcare
- ☐ (19) Industrial
- ☐ (20) Multi-Family Residential
- ☐ (21) Single-Family Residential
- ☐ (22) Other ____________

4. Reason for Inquiry?
- ☐ (23) Current Planning
- ☐ (24) Future Planning
- ☐ (25) Both

5. Are you currently a subscriber?
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February 2006 Issue

ARCHITECTURAL RECORD

and Their Contributions to New York

New York City

February 23, 2006

The symposium features architects of Puerto Rican heritage who practice in New York City. At Hunter College main auditorium. Call 212/772-5695 or visit www.centropr.org.

Symposium: The Gulf Coast: Restoring Wetlands and Plant Life

Washington, D.C.

February 23, 2006

Hurricanes Katrina and Rita not only destroyed countless buildings along the Gulf Coast, but also killed plant life and devastated the already compromised coastal wetlands. The loss of these natural elements is doubly tragic, because if still intact, they could mitigate damage from future storms. A panel of landscape architects and planners will examine the role of these critical components in a healthy ecosystem and discuss the vital need for restoration of the wetlands and other issues. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Building Energy Conference and Trade Show

Boston

March 7–9, 2006

The Northeast's premier conference and trade show for renewable-energy and green-building professionals and others eager to learn about green-building techniques and products. Featuring in-depth workshops on a wide range of topics with leading architects, engineers, designers, product developers, builders, manufacturers, policy makers, planners, educators, utility executives, and green marketers. At Boston's Seaport World Trade Center. Visit www.buildingenergy.nesea.org.

Competitions

2006 Burnham Prize Design Competition

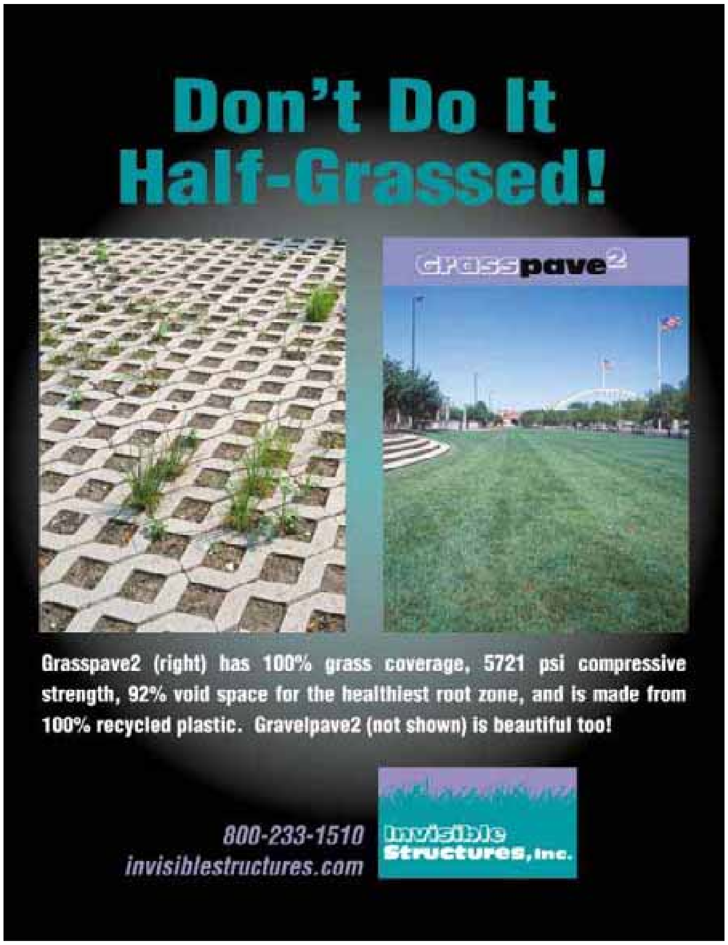
Preregistration Deadline: February 10, 2006

The Burnham Prize is an international biennial design competition sponsored by the Chicago Architectural Club, open to young architects and architectural graduates, to make an extended visit to the American Academy in Rome. This year, the Burnham Prize is seeking ideas regarding the neighborhood of North Lawndale, a landmark neighborhood close to downtown Chicago that has experienced economic hardship and urban blight over the past 30 years. Call 773/848-7368 or visit www.chicagoarchitectureclub.org.

BSA's 2006 Research Grants in Architecture Program

Application Deadline: February 10, 2006

Boston Society of Architects (BSA) is offering $75,000 in research grants to U.S. building industry professionals. Individuals and teams (architects, academics, designers, product developers, students, etc.) in the national design and construction industry seeking support for an original research project are encouraged to submit applications. With a focus on design as research, this program encourages inquiry not only into specific research topics but also into how design itself constitutes



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research. Call 617-951-1433, x 227, or visit www.architects.org.

2006 AIA San Francisco Design Awards Program
Deadline: February 13, 2006
Award categories are Excellence in Architecture, Excellence in Interior Architecture, Energy and Sustainability, Unbuilt Design, Urban Design, and Special Achievement. Call 415/362-7397 or visit www.aiasf.org.

In Pursuit of Housing
Registration Deadline: February 17, 2006
The Boston Society of Architects (BSA) is administrating a design competition that encourages students and recent graduates to address the complex issues involved in designing housing for young people with limited resources. Visit www.architects.org.

4 Corners Design Competition
Registration Deadline: February 24, 2006
Submission Deadline: March 1, 2006
Submit a design for a pedestrian connectivity in downtown Naples, Florida. In addition to the jury's judging process, community members will vote for the "People's Choice Award." More information is available at www.aiaflasw.org.

Inside:Out—Weaving Arts into the Urban Fabric
Registration Deadline: February 27, 2006
The Boston Center for the Arts is sponsoring a two-stage, national open design competition for its public open spaces in Boston's South End neighborhood. Set at the crossroads of widely divergent social groups and communities, the Boston Center for the Arts' campus includes theaters, art galleries, artist studios, the Boston Ballet, restaurants, residences, and the iconic Cyclorama. The competition seeks innovative ways to spatialize the BCA's mission by bringing the inside out and by weaving arts into the urban and social fabric of this Boston neighborhood. Visit www.architects.org.

New Life for the Big Easy New Orleans
Deadline: March 1, 2006
An international competition for new housing in New Orleans in the wake of Hurricane Katrina's devastation to the Crescent City. Participants in the competition will design housing for an actual block in the city. Programmatic elements include single-family housing, multifamily housing, and mixed-use urban planning. Visit www.architecturalrecord.com.

Eco: Dwell House for an Ecologist—A Design Ideas Competition
Registration Deadline: March 1, 2006
The AIA challenges architects and students everywhere to propose a unique dwelling that combines integrity and inspiration. The program is a live/work dwelling for an ecologist in residence at the U.S. Fish and Wildlife Service (FWS). The site is the grounds of the National Conservation Training Center in Shepherdstown, West Virginia. Visit www.aia.org/cod.

AIA St. Louis Annual Architectural Photography Competition

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Dates & Events

Deadline: March 15, 2006
Entries must be submitted in slide format and may be in either color or black-and-white format. Actively registered architects in the U.S., members of AIA or AIAS are eligible to enter. The top 14 images will be on display at the AIA National Convention in Los Angeles. For information, call 314/621-3484 or visit www.aia-stlouis.org.

10th Biennial Bridge Awards Competition
Deadline: March 31, 2006
Portland Cement Association (PCA) is seeking nominations for its 10th biennial Bridge Awards Competition. All types of bridges in which the basic structural system is concrete—highway, railway, pedestrian—are eligible. Call 847/972-9100 or visit www.cement.org.

Edge as Center: Envisioning the Post-Industrial Landscape
Registration Deadline: March 31, 2006
The Boston Society of Architects (BSA) announced recently that the city of Somerville, Massachusetts, will join with the BSA to hold an international urban design ideas competition for the industrial Brickbottom area in East Somerville. A competition prize fund of $35,000 will be awarded to the top three entrants. For details, visit www.architects.org/somerville.

Urban-Open
Deadline: April 15, 2006
A two-phase, open competition with the objective of honoring Chicago's commitment to sustainability and community development. The first phase solicits design schemes for an outdoor community space. Visit www.urban-space.org.

2006 Benjamin Moore HUE Awards
Submissions Due: May 19, 2006
Presented by the Benjamin Moore company to honor architects and interior designers for exemplary use of color in both residential and contract projects, the awards recognize design professionals who incorporate color in innovative and imaginative ways—through the use of interior and exterior paints, building materials, textiles and other surfaces, plus design elements and furnishings. Call 212/966-3759, x 233 or visit www.benjaminmoore.com.

Dream House with HGTV
Deadline: June 2006
High Noon Productions announces the continued production of the HGTV series, *Dream House*, and seeks architects who are interested in appearing on the show. To be eligible, you must have broken ground by the first half of 2006 and be willing to have camera crews follow your home's construction from start to finish. Interested families, contractors, or architects may call 303/712-3184 or visit www.highnoonentertainment.com.

E-mail event and competition information two months before event or submission deadline to elisabeth_broome@mcgraw-hill.com.

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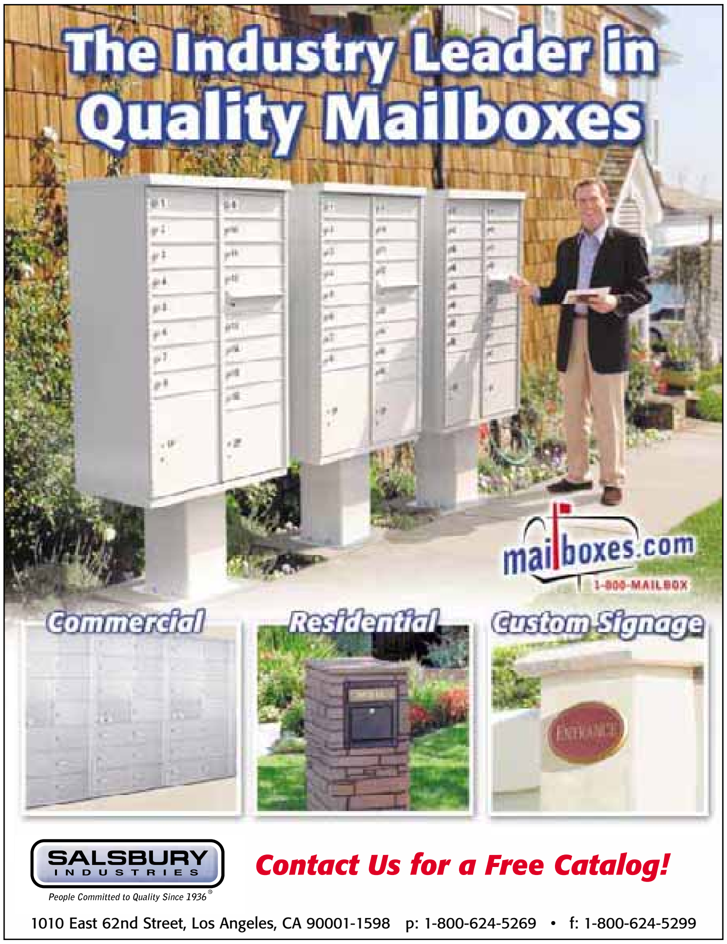

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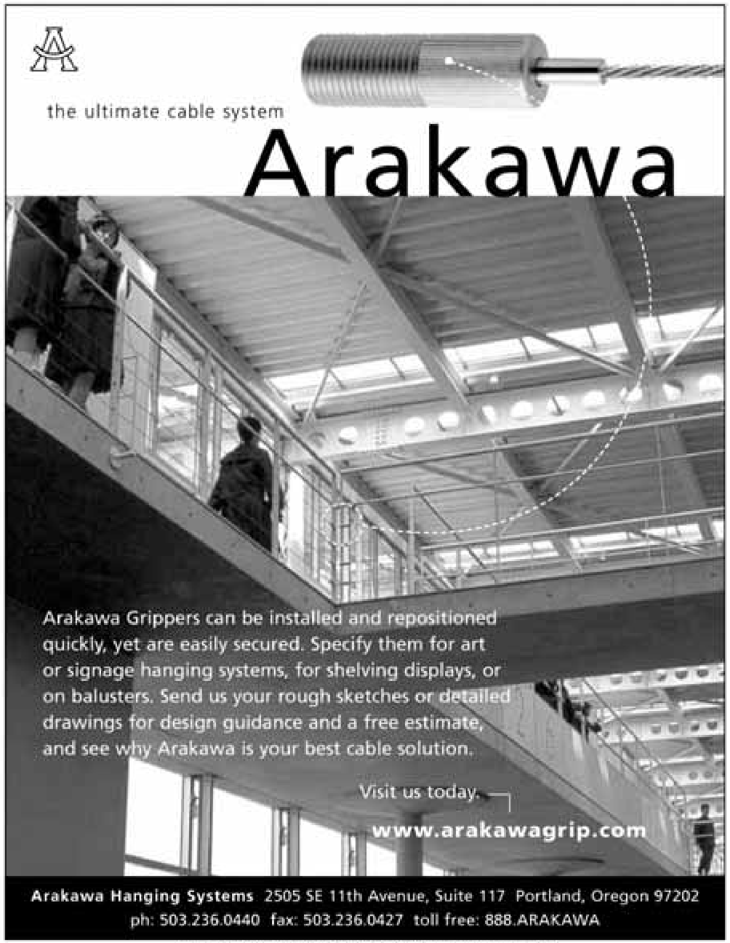
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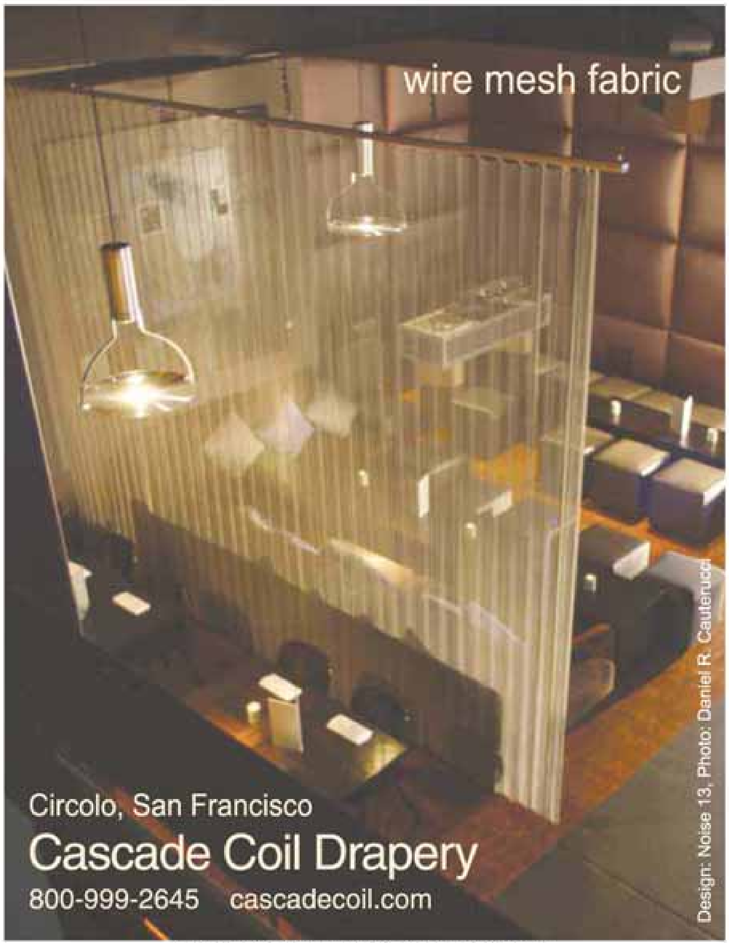
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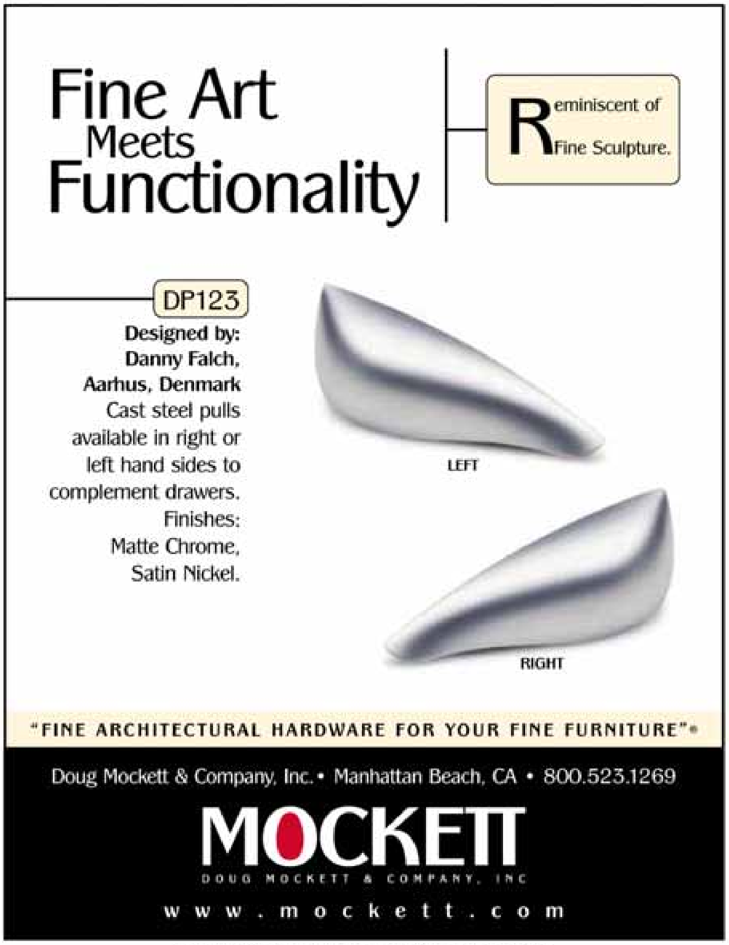

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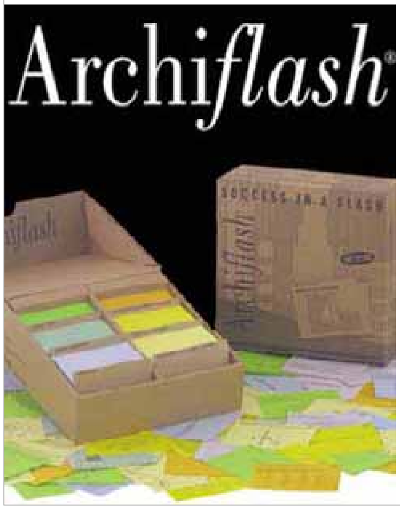

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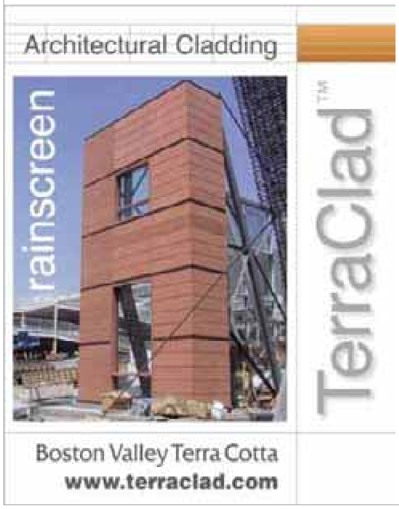

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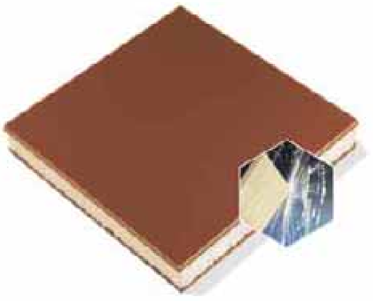

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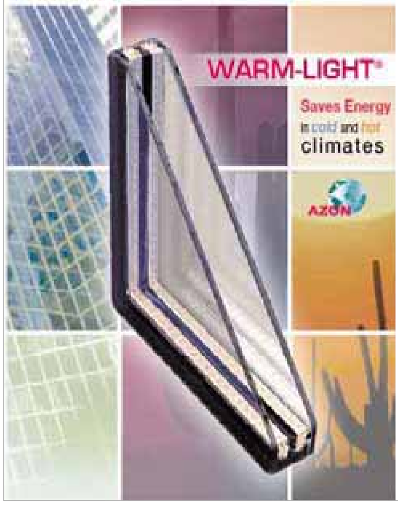

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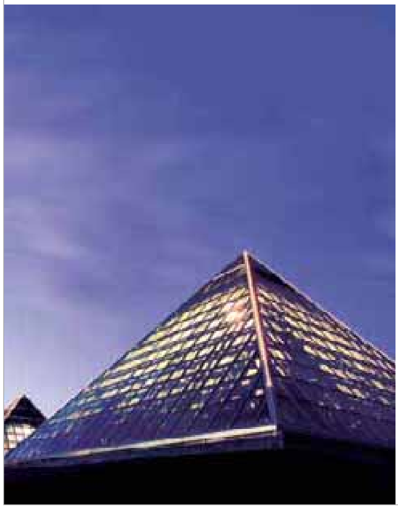

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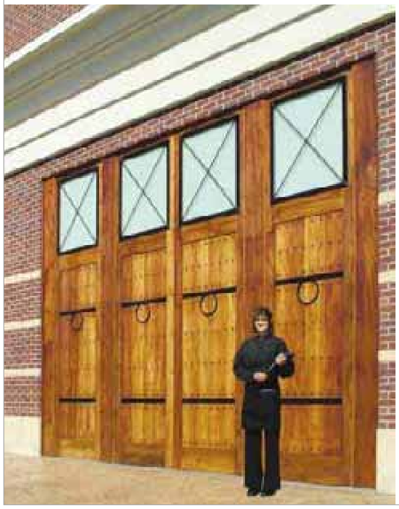

These giant 14-ft.-tall Spanish Cedar panels with distressed wrought iron were designed by an architect and built by SUN-DOR-CO to add maximum elegance to an upscale restaurant. Six sets of these panels were incorporated into the building along with custom front-entry doors with the restaurant's logo etched into glass panels. This is just another example of SUN-DOR-CO's 50 years of expertise in building custom doors. You design it ... they'll build it. And, they'll do it in less than 60 days.

800-835-0190
www.sundorco.com

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Doors for Interior Architecture

Woodfold-Marco Mfg., Inc.

Some will say that nothing is more beautiful than wood. Woodfold-Marco would agree. Woodfold custom made accordion and roll-up doors (available in hardwood and non-hardwood finishes as well) are both functional and beautiful. Woodfold-Marco has models available for use as sight, security, and acoustic applications. Its solid hardwood roll-up doors coil conveniently overhead. And, to assure on time completion of your projects, Woodfold-Marco has the industry's best production cycle. Fax number 503-357-7185

503-357-7181
www.woodfold.com

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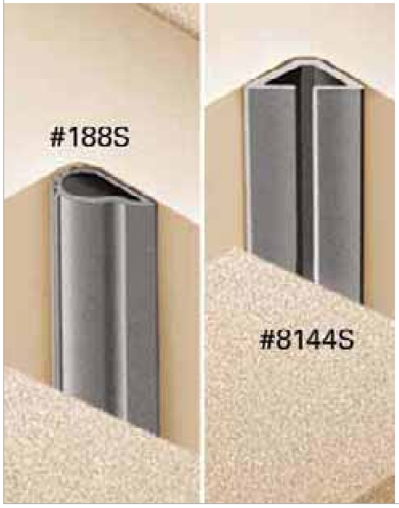
Edge Seals for Category B Fire Doors

Zero International, Inc.



Zero International's #188S compression seal and #8144S gasket are UL-approved for use as Category G edge sealing systems and as Category H smoke and draft control gasketing for 20-min. Category B fire doors. These silicone systems are surface-applied with pressure-sensitive adhesive and eliminate the need for intumescence in the door assembly. Category G and Category H are testing-agency classifications used to standardize the testing and labeling of doors and gasketing under positive-pressure code requirements for fire-rating and smoke control, respectively.

800-635-5335
www.zerointernational.com

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Resilient Athletic Flooring

Abacus Sports Installations

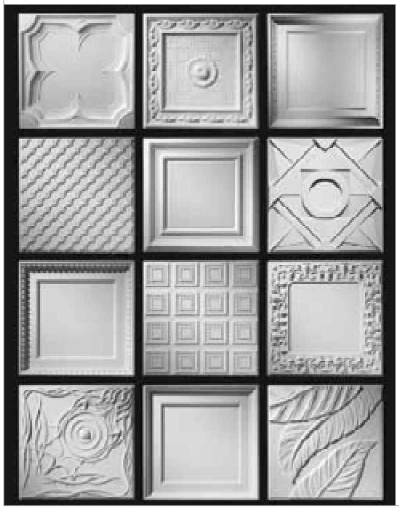
Abacus Sports Installations is proud to offer PADENPOR. PADENPOR resilient flooring is designed for multipurpose use, including all sports activities, dances, meetings, roller blading, etc. PADENPOR is a "dual durometer" multipurpose floor. Two products (rubber basemat and urethane) are combined to introduce two different hardnesses to the floor. The rubber underlayment (LEED and Green certified) is soft, offering resilience/ergonomics/safety. The urethanes are hard, offering not only performance (ball rebound/playability) but also durability.

800-821-4557
www.abacussports.com

| **Circle Reader Service #167**

Ornamental Plaster Ceiling Tiles

Above View Mfg., By Tiles, Inc.



Above View ornamental plaster ceiling tiles are fabricated from a non-toxic, non-combustible, proprietary composition. They drop into any standard 15/16-in. T-Bar grid system. There are more than 50 standard designs, custom design work, and 1,300 custom colors and faux finishes available upon request.

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www.aboveview.com

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Technical Glass Products

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| Circle Reader Service #171

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Gage Corporation, Intl.

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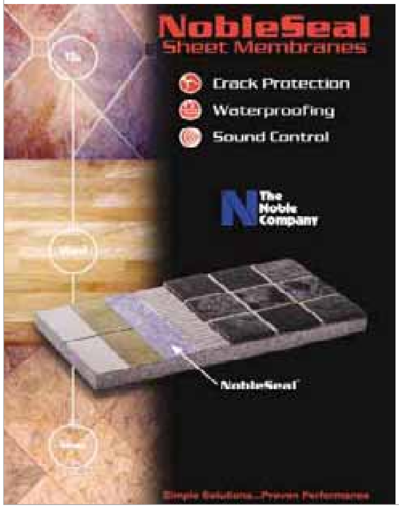
800-786-4243
www.gageverticalsurfacing.com

| Circle Reader Service #169

Sheet Membranes

The Noble Company



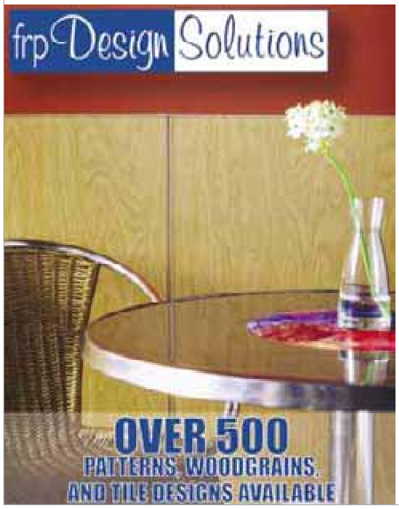
NobleSeal® Sheet Membranes protect thin-set tile, marble, and hardwood floors. Applications include waterproofing, crack isolation/joint bridging, and sound control. NobleSeal sheets are lightweight, flexible, and guaranteed to last. They can be installed over all common substrates, including gypsum concrete, radiant heating systems, and many wood subfloors. The company offers many unique products including NobleSeal SIS, a thin sheet that significantly reduces floor-to-floor impact sound and can also provide crack isolation and waterproofing.

800-878-5788
www.noblecompany.com

| Circle Reader Service #172

Decorative Wall Panels

Kemlite Company



frpDesign Solutions is a family of decorative wall panels that provides an alternative to traditional wall coverings such as ceramic tile, wood paneling or vinyl wall coverings. Offering both functionality and design, products in the frpDesign Solutions line are made of a moisture-resistant frp panel with a decorative finish that includes myriad colors, patterns, and woodgrains, as well as a tile-look panel. Available with over 500 choices, frpDesign Solutions is easy to install and maintain. For more information, visit Kemlite on the web.

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www.frpdesignsolutions.com

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Beam Industries

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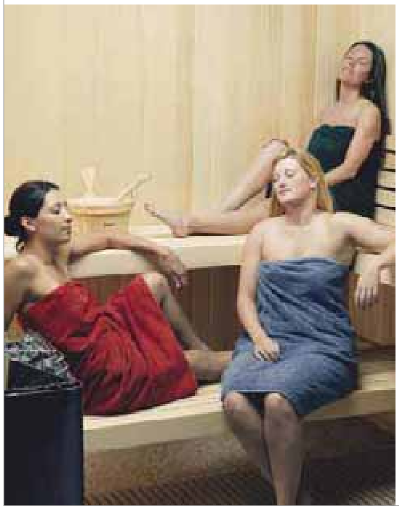
Saunas

Finlandia Sauna Products, Inc.



Finlandia Sauna has manufactured exclusive and authentic saunas since 1964. Finlandia offers precut sauna packages and modular sauna rooms as an affordable luxury that can be included in any remodel or new construction. The company markets four all-clear western softwoods and is the only manufacturer to use 1-in. by 4-in. paneling, instead of the cheaper 1/2-in. by 4-in. material used by others. Finlandia's packages include all room parts, a choice of a Finnish made electric heater, a prehung door with choice of glass, and all necessary accessories.

800-354-3342
www.finlandiasauna.com

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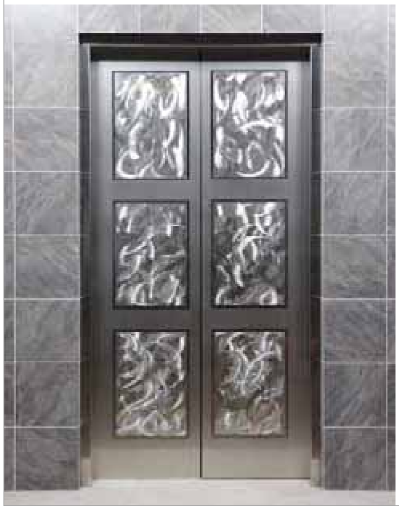
Elevator Door Facings

Gage Corporation, Intl.



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800-786-4243
www.eco-nor.com

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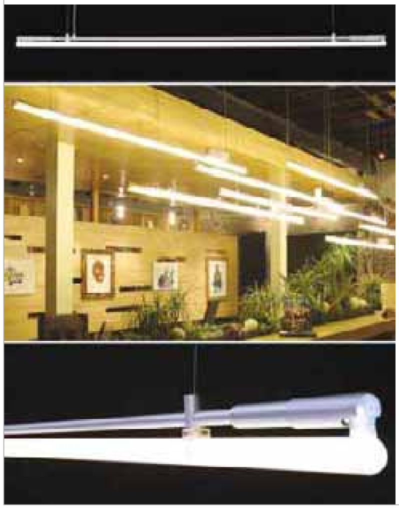

Streamlites express a new and exciting language of hardware that transforms into elegant structures supporting the cold cathode lamp with minimalist sensibility. Streamlites have end-to-end illumination, and are available in several standard lengths and colors. They offer unlimited possibilities that are both classic and timeless.

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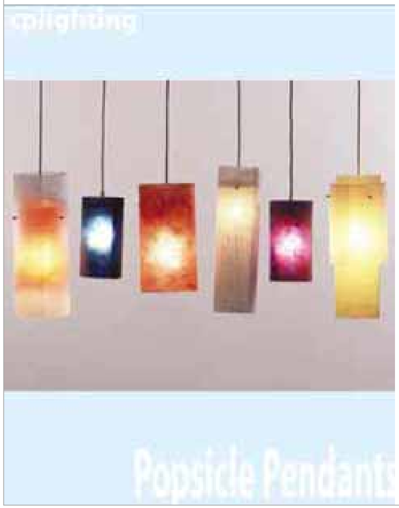
CP Lighting



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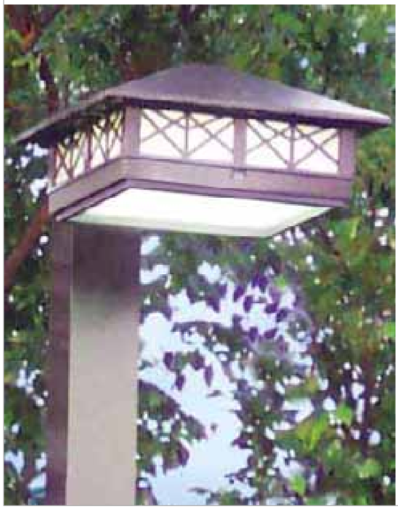
866-597-4800
www.cplighting.com

| Circle Reader Service #183

Prairie Area Luminaire

Sternberg Lighting



The New Prairie Area Lighter PA130, design is typical of the Frank Lloyd Wright period. This compact traditional design offers NIGHTSKY™ full cut-off optics, up to 250 watt or optional backlit side panels up to 175 watt. Features include tool-less entry, rotatable and sealed optics with various distributions. A 400 watt model PA230 also available.

800-621-3376
www.sternberglighting.com

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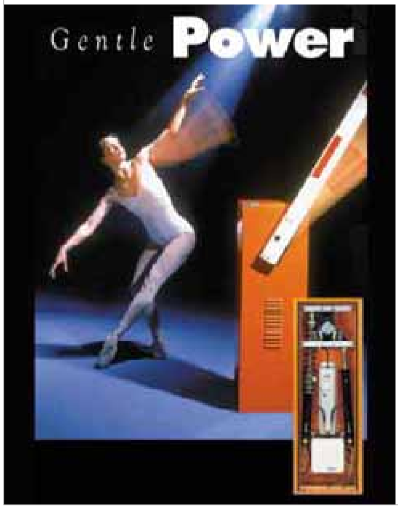
Barrier Gate Operators

FAAC International, Inc.



FAAC is the world's largest specialized manufacturer of hydraulic operators for barrier, slide and swing gate systems. Barrier features include 100% continuous duty operation, the ability to raise beams up to 23-ft., and control panels with full system compatibility. High-speed and economy models available. Visit their web site for brochures and specs.

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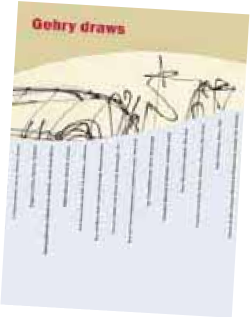
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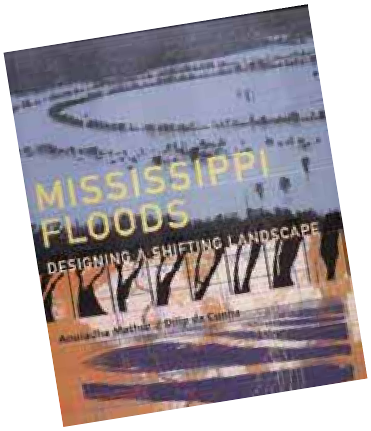
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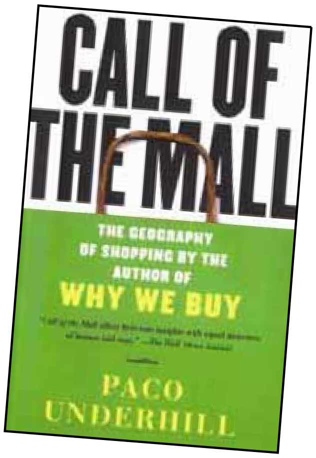
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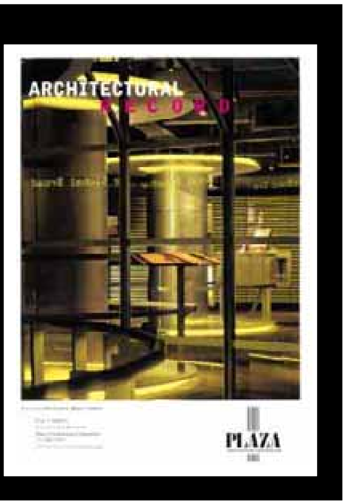

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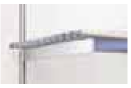
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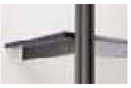
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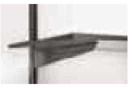
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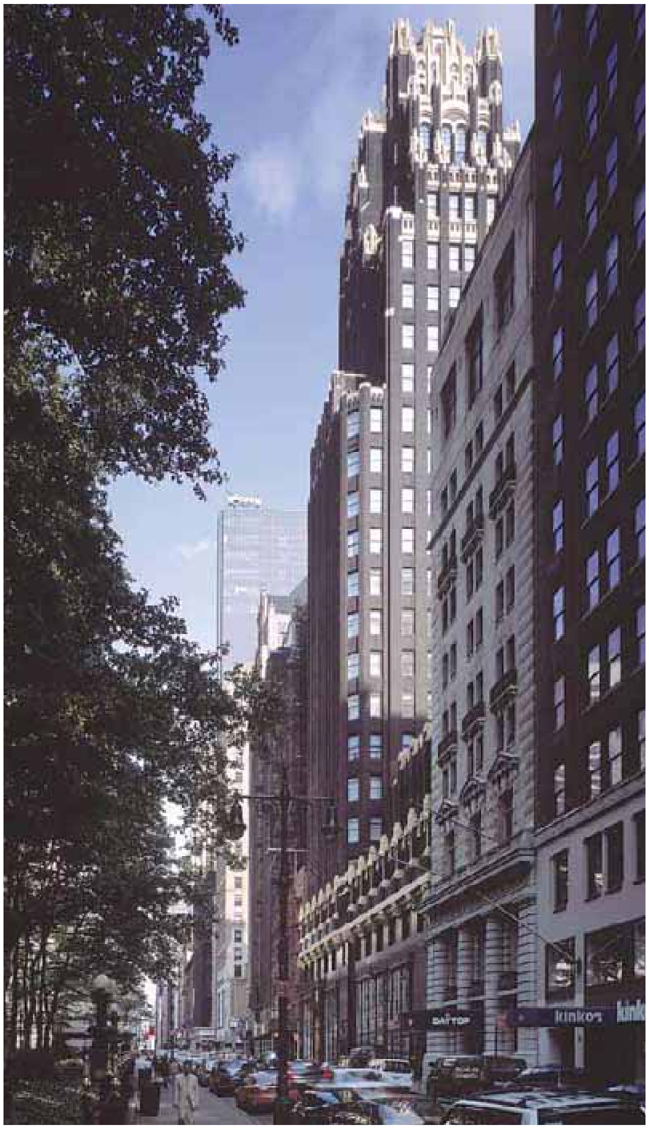
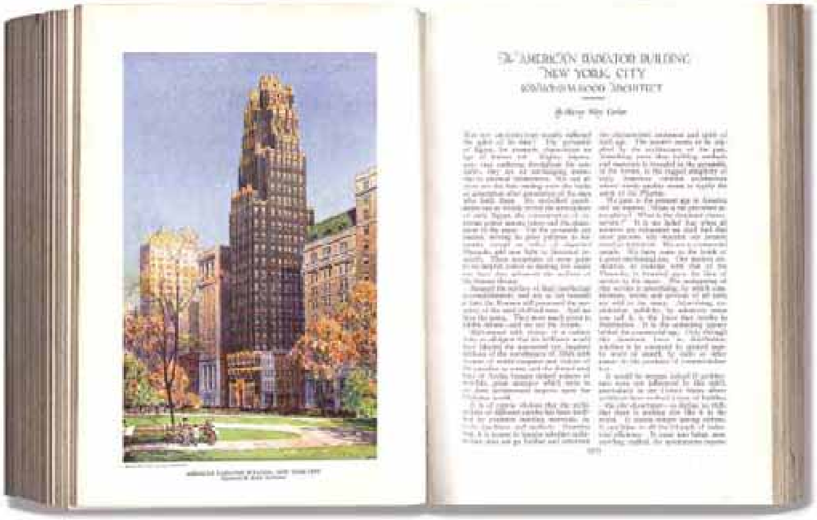


From corporate ad to chic caravansary

Raymond Hood's American Radiator building, in New York City, published in ARCHITECTURAL RECORD in May 1924 (below), was converted in 2001 to the Bryant Park Hotel (above two).



In 1924, Raymond Hood, famed for the Chicago Tribune Tower (1922), shocked the New York architectural community by designing a skyscraper that was already black—without benefit of decades of city soot. Working with Andre Fouilhoux, Hood faced the 26-story American Radiator Building in black brick fired in manganese, and trimmed it with gilded terra-cotta to enliven the crenellated top. As Harvey Wiley Corbett, an architect who would soon join Hood on the team designing Rockefeller Center, wrote in RECORD that May, "As an advertisement, I consider the building a magnificent success." Years went by, and the tower, renamed the American Standard Building, was designated a New York City landmark in 1974. Then in 2001, it was renovated by David Chipperfield Architects for the Bryant Park Hotel. Conceived by developer Philip Pilevsky as a boutique hotel with 129 rooms, the structure is ideally suited for the fashion crowd: Not only is the garment center close at hand, but the hotel faces Bryant Park, the site of Fashion Week's twice-a-year tent shows. In addition to restoring the exterior and designing the pared-down Modern guest rooms, the London-based Chipperfield office converted the former product showrooms on the main floor into a restaurant (above left) and a red-paneled reception area, with bar and screening room downstairs. A showroom, added by Fouilhoux in 1937, has been spiffed up for the Katharine Gibbs School (above right, bottom center of photo). Now the black shaft fits right in with the attire of the crowd it accommodates. *Suzanne Stephens*

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